ICTMHS

International Conference on Translational Medicine and Health Sciences

Semarang, October 27th - 28th 2017

ABSTRACT BOOK

Organized by Faculty of Medicine Diponegoro University

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Welcome message

First of all, thanks to **Almighty Allah**, the most merciful, beneficent and compassionate, for His blessing that this conference could be held today. All respect and greeting to the **Holy Prophet, Muhammad** ﷺ who guided us of Allah and lead us to Islam rahmatalil alamiin.

I would like to express my greatest gratitude to Prof. Dr. Yos Johan Utama, S.H., M.Hum; Rector of Diponegoro University, Prof. Dr. dr. Tri Nur Kristina, DMM., M.Kes.; Dean of Faculty of Medicine Diponegoro University, Prof. Dr.rer.nat Heru Susanto, S.T., M.M., M.T.; Director of LPPM, for all of their kind supervision during the preparation of this event. I would like to express my sincere gratitude to dr. Ahmad Zulfa, Sp.And, Ph.D, Prof. dr. Sultana MH Faradz, PhD, Prof. Dr. dr. Hussein Gasem, Sp.PD, Prof. Dr. dr. Suprihati, Sp.THT, especially to my really partner dr. Nani Maharani, M.Si.Med, Ph.D and all of the committee members for all of your hard work, kind help, and best effort as a solid team work, by which this event can be held successfully today.

I would like to thank all of the honorable ICTMHS speakers for your willingness to come and give lectures here, and all of participants from various institutions in the world.

Welcome to **International Conference on Translational Medicine and Health Sciences (ICTMHS).** It is a great pleasure to have all of you here in ICTMHS, Semarang Indonesia, on this October 27-28, 2017.

Translational medicine, also referred to as translational science, as *an interdisciplinary branch of the biomedical field supported by three main pillars: bench-side, bedside and community*, is a rapidly growing discipline aiming to improve the healthcare systems by "effectively translate the new knowledge, mechanism, and techniques, generated by advances in basic science research into new approaches for prevention, diagnosis, and treatment of diseases". Research in the field of translational medicine is pivotal especially in finding scientific breakthroughs in the field of medicine, hence this type of research requires considerable amount of strategies, infrastructures and time.

Encouraged by the importance of this research field, Faculty of Medicine, Diponegoro University organize an international conference ICTMHS to promote educational and science development particularly on medical science, as well as to improve the research development and the growth of international scientific publications. Through ICTMHS, we hope to contribute in introducing and educating the scientific community on the nowadays advance in medical sciences.

ICTMHS in this year focuses on some highlight topics which are Infectious Disease, Immunology, Drug Discovery, Degenerative, Cardio – Metabolic Disease, Neuroscience, Oncology, Endocrinology, Holistic Nursing Science, and Nutritional Approach in Disease Prevention, which have been of interest to hundreds researcher and clinician that want to share their interesting research problems.

As a major goal of this event, we hope that it can be an excellent chance to discuss interesting ideas and develop fruitful project in the future, network opportunities with old and new colleagues, coordination new partnerships which advance collaboration either about the research field or not, as well as the careers of all participants.

This first ICTMHS is held on Semarang, a fascinating city with rich history and tradition of Java. It is a beautiful city, located on Central of Java, near Borobudur temple; one of Wonders of the World.

Please enjoy your participation in ICTMHS and have a great experience during your stay in Semarang.

Wish you the best in all your work.

Muflihatul Muniroh, MD, MSc, Ph.D
Organizing Chairperson
ICTMHS 2017

Praise to the God Almighty for the International Conference on Translational Medicine and Health Science (ICTMHS) 2017, Faculty of Medicine Diponegoro University and I are very excited for this event and we welcome to all of the participants and speakers to this event. The special acknowledgement, I address to the distinguished speakers Prof. dr. Soenarto Sastrowijoto, Sp.THT from Gadjah Mada University - Indonesia, Prof. Andre van der Ven from Radboud University – The Netherlands Prof. Dr. Johnson Stanslas from University Putra – Malaysia, Prof. Randi Hagerman, MD, Ph.D from University of California Davis – USA, Prof. Frank de Jong, MD, Ph.D from Erasmus University Medical Center – The Netherlands, and Prof. Gerard Pals, Ph.D from VUMC Amsterdam – The Netherlands. I am very grateful for your willingness to attend and share your knowledge to us.

Faculty of Medicine Diponegoro University has a vision to be the centre for medical and health sciences, we would like to introduce and educate the public about medical research development from around the world, especially on the field of Infectious Disease, Immonology, Drug Discovery, Holistic Nursing Science, Degenerative, Cardio – Metabolic Disease and Neuroscience. And as a part of Diponegoro University, we would like to promote our goal as the World Class University, so I hope that from this event we will increase the number of Faculty of Medicine and Diponegoro University's international publications as well.

I wish that this event will give a big contribution on sharing knowledge and information about medical and health sciences for the academic members, researchers and all of the participants.

I also would like to appreciate to all of the committee members for their effort and hard work so that this event can happen.

Once again, welcome to the International Conference on Translational Medicine and Health Science (ICTMHS) 2017, I hope that all of you enjoy your stay at Semarang and we will see you again on the next event.

Prof. Dr. dr. Tri Nur Kristina, DMM, M.Kes
Dean

Assalamulaikum Warahmatullahi Wabarakatuh

It's a great pleasure and honour for our University to be the host of International Conference on Translational Medicine and Health Sciences. The special acknowledgement, I address to the distinguished speakers Prof. dr. Soenarto Sastrowijoto, Sp.THT from Gadjah Mada University - Indonesia, Prof. Andre van der Ven from Radboud University – The Netherlands Prof. Dr. Johnson Stanslas from University Putra – Malaysia, Prof. Randi Hagerman, MD, Ph.D from University of California Davis – USA, Prof. Frank de Jong, MD, Ph.D from Erasmus University Medical Center – The Netherlands, and Prof. Gerard Pals, Ph.D from VUMC Amsterdam – The Netherlands.

Thank you for the valuable time to deliver knowledge and share scientific information at this conference. I believe that this opportunity will provide the valuable information for us and deliberate some new research ideas for participants of this conference.

For all the participants, I would also like to welcome you at this conference. The origin of the conference theme is reflected from the idea of our Center of Excellence (CoE) which was established in 2012 representing our priority as a research university. Since the declaration of Diponegoro University as a research university, the main theme of every research result will be enhanced to the level of international benchmarking. Diponegoro University, has strong human resources and research background related to translational medicine and health sciences. It is also supported by laboratory such as Center for Biomedical Research.

Translational medicine is a rapidly evolving biomedical research aimed at finding new diagnostic tools and treatments with a multidisciplinary approach, with a bench-to-bedside approach, which will be applied for the benefit of society. Translational research is an important aspect in research, especially in helping to find scientific breakthrough in the field of medicine and use it as much as possible for the patient's health and to the general public. These interesting issues need to be discussed in this conference by sharing research finding and ideas. I am gratefull to see that this conference has enormous responds from the participants either from domestic or from other countries. Number of publication indexed by reputable database has been set as an indicator for world university rank including Indonesia. Therefore, Diponegoro University also encourages all scientists and academic staffs to increase their publication records in these international reputation journals.

Currently, Diponegoro University is in the 6th position among universities in Indonesia for the number of publications in reputable International journals. I sincerely express appreciation to the organizing committee for their effort to realize this conference. By the end of my short welcome address, I hope our foreign guests take advantage of their stay here to enjoy our beautiful city, Semarang. Once again, it is my great pleasure to welcome you all to the International Conference on Translational Medicine and Health Sciences. I wish you a pleasant two fully scientific days of conferences and I hope you can get a fruitfull share with other scientists on current developed knowledge and perhaps seeking for potential collaboration of your interested field.

Wassalamulaikum Warahmatullahi Wabarakatuh

Thank you for your kind attention.

Prof. Yos Johan Utama
Rector

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"International Conference On Translational Medicine And Health Sciences (ICTMHS) 2017"
Crowne Hotel Semarang, 27-28 October 2017

TIME	Day I (Friday, 27 October 2017)			
	Topic: Drug Discovery, Nutritional Health Research, Infectious Diseases & Immunology, Holistic Nursing Science			
07.00 - 07.45	**REGISTRATION**			
07.45 - 08.30	Opening Speech (Organizing Chairperson, Dean of Faculty of Medicine, Rector of Diponegoro University), sing "Indonesia Raya", Photo Session			
	Plenary Session (Moderator : Prof.dr. Muhammad Hussein Gassem, Ph.D, Sp.PD, KPTI)			
08.30 - 09.00	**Prof. dr. Soenarto Sastrowijoto, Sp.THT** (Topic : Ethical Aspect on Translational Resarch)			
09.00 - 09.45	**Prof. Andre van der Ven (Radboud)** : Antimicrobial resistance formation: a global threat			
09.50 – 10.30	**Prof. A.D.M.E (Ab) Osterhaus, Ph.D (Rotterdam):** SARS, influenza, Ebola, MERS, Zika: what have we learned?			
09.45 - 10.30	**Prof. Dr. Johnson Stanslas (UPM)**: Drug discovery and personalised medicine for cancer: the impact of translational research			
10.30 - 10.45	Discussion (Q & A)			
10.45 - 11.00	**Coffee break**			
11.00 - 11.30	**Free Paper Oral & Poster Presentation**	**Free Paper Oral & Poster Presentation**	**Free Paper Oral & Poster Presentation**	**Free Paper Oral & Poster Presentation**
	3 paper @10 min	3 paper @10 min	3 paper @10 min	3 paper @10 min
11.30 - 13.00	**Sholat Jumat and Lunch**			
	Invited Lectures			
	Grup I (Drug Discovery)	**Grup II (Nutritional Health Research)**	**Grup III (Infectious Disease)**	**Grup IV (Holistic Nursing Care)**
	Moderator: dr. Endang Mahati, M.Sc, Ph.D	**Moderator: Dr. Diana Nur Afifah, STP, M.Si**	**Moderator: dr. Rahajeng NT, M.Si.Med, Ph.D**	**Moderator: Ns. Nana Rochana, S.Kep, MN**
13.00 - 13.30	**Prof. Christine Imbert, Ph.D**	**Prof. Peter Emery**	**Prof. Andre van der Ven**	**Assoc. Prof. Jennieffer Barr, Ph.D**
	Finding new active compounds from natural resources to control fungal biofilms	Nutritional support to mitigate malnutrition in patients to reduce hospitalization cost	The interaction between platelets and host defense	The Evolution of Holism in Nursing
13.30 - 14.00	**Megumi Yamamoto, MD, Ph.D**	**Asocc. Prof. Akio Ohta**	**Prof.dr. M.Hussein Gassem,Ph.D,Sp.PD,K-PTI**	**Dr. Meidiana Dwidiyanti, Ns.**
	Experimental findings on methylmercury toxicity and its prevention	Encapsulation Technologies to Improve the Functional of Food Ingredients	Leptospirosis: diagnostic pitfalls and role of biomarkers in disease severity	Self-care model in chronic illness
14.00 - 14.30	**Prof. Ocky Karna Radjasa, M.Sc, Ph.D**	**Dr. Ir. Umi Fahmida, M.Sc**	**Prof. Dr. dr. Tri Nur Kristina, DMM, M.Kes**	
	Microbial Symbionts of Marine Invertebrates as an Environmentally Friendly Source of Marine Natural Products	Linear programming to develop dietary guidelines and food-based intervention to improve nutrition and health outcome	Contribution of education institution to solve problems of infectious diseases in community	
14.30 - 15.00	Discussion (Q & A)	**Prof. Wan Abdul Manan Wan Muda**	**dr. Helmia Farida, Ph.D**	**Kusman Ibrahim, MNS, Ph.D**
		Decoding The Double Burden Paradox: Nutrition Transition in Malaysia	The etiology of community acquired pneumonia : Does geographical variation matter ?	Cultural approach in holistic nursing
15.00 - 15.30	**Free Paper Oral & Poster Presentation**	Discussion (Q & A)	Discussion (Q & A)	Discussion (Q & A)
	3 paper @10 min			
15.30 - 15.45	**Coffee break**			
15.45 - 17.05	**Free Paper Oral & Poster Presentation**	**Free Paper Oral & Poster Presentation**	**Free Paper Oral & Poster Presentation**	**Free Paper Oral & Poster Presentation**
	5 paper @10 min	8 paper @10 min	8 paper @10 min	8 paper @10 min
18.30 - 21.30	**Welcoming / Gala Dinner**			

Scientific Programme

Time	Day II (Saturday, 28 October 2017)			
	Topic: Degenerative, Cardio-Metabolic Diseases & Neuroscience			
07.45 - 08.00	**Opening**			
	Plenary Session (Moderator: Prof. dr. Sultana MH Faradz, Ph.D)			
08.00 - 08.45	**Prof. Randi Hagerman, MD, Ph.D** (Targeted Treatments in Intellectual Disabilities)			
08.45 - 09.30	**Prof. Frank de Jong, MD, Ph.D** (Tittle: Endocrinology and Obesity)			
09.30 - 10.15	**Prof. Gerard Pals, Ph.D (Cardiovascular)** (Tittle: Direct transdifferentiation of human fibroblasts into smooth muscle cells and osteoblasts for drug discovery and functional analyses of mutations)			
10.15 - 10.30	Discussion (Q & A)			
10.30 - 10.45	**Coffee break**			
10.45 - 12.00	**Free Paper Oral & Poster Presentation** 8 paper @10 min	**Free Paper Oral & Poster Presentation** 8 paper @10 min	**Free Paper Oral & Poster Presentation** 8 paper @10 min	**Free Paper Oral & Poster Presentation** 8 paper @10 min
12.00 - 12.45	**Lunch (& Poster Presentation)**			
	Invited Lectures			
	Grup I (Degenerative disease & Oncology)	**Grup II (Translational Endocrinology)**	**Grup III (Translational Neuroscience)**	**Grup IV (Cardio-Metabolic)**
	Moderator: dr. Muflihatul Muniroh, M.Si.Med, Ph.D	**Moderator: Dr. dr. K Heri Nugroho Hario Seno, Sp.PD-KEMD**	**Moderator: dr. Yuriz Bakhtiar, Ph.D, Sp.BS**	**Moderator: dr. Nani Maharani, M.Si.Med, Ph.D**
12.45 - 13.15	**Prof. Randi Hagerman, MD, Ph.D** The fragile X Premutation from Neurodevelopment to Neurodegeneration	**Prof. dr. Sultana MH Faradz, Ph.D** Molecular analysis of DSD genes toward its management, from research bench to clinical practice	**dr. Tri Indah Winarni, M.Si.Med, Ph.D** Early intervention and targeted treatment in children with Fragile X syndrome: Where have we been so far?	**Dr. dr. Anwar SANTOSO, Sp.JP(K), FIHA, FAsCC, FESC. FACC** Phospholipase A2 an Emerging CAD Risk Factors in the Horizon: Any genetic polymorphisms take a role in CVD
13.15 - 13.45	**Prof. Chihaya Koriyama, MD, Ph.D** Molecular epidemiology of HPV-related cancers	**Prof. Frank de Jong, MD, Ph.D** Multi-facetted regulation of androgen activity	**Hirofumi Hirano, MD, Ph.D** Malignant brain tumor and the treatment	**dr. Bambang Widyantoro, Ph.D, Sp.JP, FIHA** Cardiac Remodeling in Diabetic Heart Disease: Learning from translational studies on Endothelin system
13.45 - 14.15	**Prof. Dr.dr. Ign. Riwanto, Sp.B, Sp.BKBD** Fighting to colorectal cancer (CRC) stem cells	**dr. Achmad Zulfa J, M.Si.Med, Ph.D, Sp.And** Hormonal analysis in Disorders of Sex Development	**Prof. dr. Zainal Muttaqien, Sp.BS** Well Organized Epilepsy Surgery Program in Semarang: Paving the way to start Multidiciplinary Translational Researches in the field of Epilepsy	**dr. Bahruddin, M.Si.Med, Ph.D** Diagnostic tool, pathogenesis, and pharmacological intervention in hypertrophic cardiomyopathy caused by a mutant cardiac myosin-binding protein c
14.15 - 14.45	Discussion (Q & A)	**Dr. dr. Hardian** The effect of chronic pesticide exposure to the autonom nervous system	**dr. M.Thohar Arifin, Ph.D, Sp.BS** Intraoperative Electro Cortico Graphy (ECog): recent updates	**dr. Ali Sobirin, M.Si.Med, Ph.D** Natural Killer T Cells Play a Cardioprotective Role Against Left Ventricular Remodeling and Failure After Myocardial Infarction in Mice
14.45 - 15.15	**Free Paper Oral & Poster Presentation** 3 paper @10 min	Discussion (Q & A)	Discussion (Q & A)	Discussion (Q & A)
15.15 - 15.30	**Coffee break**			
15.30 - 16.20	**Free Paper Oral & Poster Presentation** 2 paper @10 min	**Free Paper Oral & Poster Presentation** 5 paper @10 min	**Free Paper Oral & Poster Presentation** 5 paper @10 min	**Free Paper Oral & Poster Presentation** 5 paper @10 min
16.20 - 17.00	**Closing ceremony & Award announcement**			

DAY 1 (October 27th 2017)											
SESSION 1											
	Drug Discovery (Room 1)			Nutritional Approach in Disease Prevention (Room 2)			Infectious–immunology disease (Room 3)			Holistic Nursing Science (Room 4)	
Session Chair:	Faizah Fulyani, M.Sc., PhD			Gemala Anjani, S.P., M.Si., Ph.D			dr. Rebriarina Hapsari, M.Sc			Ns. Sri Padmasari, S.Kep., MNS	
Evaluator	Faizah Fulyani, M.Sc., PhD; Megumi Yamamoto, MD., Ph.D; Prof. Christine Imbert, Ph.D			Gemala Anjani, S.P., M.Si., Ph.D, Prof. Peter Emery, Assoc. Prof. Akio Ohta			dr. Rebriarina Hapsari, M.Sc; Prof. Dr. Muhammad Hussein Gasem, PhD., Sp.PD., K–PTI; Prof. Andre van der Ven			Ns. Sri Padmasari, S.Kep., MNS, Assoc. Prof. Jennieffer Barr, Ph.D, Meidiana Dwiyanti, S.Kp., M.Sc	
PIC Room	dr. Galuh Hardaningsih, M.Si.Med, Sp.A			drg. Nadia Hardini, Sp.KG			drg. Ananta Herachakri Pitaloka, Sp.Ort			dr. Mahayu Dewi Ariani, M.Si.Med	
TIME	CODE	PRESENTER	TITLE	CODE	PRESENTER	TITLE	CODE	PRESENTER	TITLE	CODE	PRESENTER	TITLE
11.00 – 11.10	DD 1–01	Anand Gaurav	3D QSAR Studies of 2–Arylpyrimidines and S-Triazines as Selective PDE4B Inhibitors	NT 1–01	Etika Ratna Noer	Physical Activity and Carbohydrate Intake and Its Association with Abdominal Obesity Among Indonesian Adolescents	ID 1–02	Yanuar Iman Santosa	Effect of Stress on IL–17 Levels on an OVA–immunized Mice Allergic Model	HN 1–01	Zuniati,	The Effect of Monitoring Educational Program for Fluid Restriction Adherence in Patient Undergoing Hemodialysis Via Mobile Technology
11.10 – 11.20	DD 1–02	Elly Nurus Sakinah	The effectiveness of Merremia mammosa (Lour.) extract fractions as diabetic wound healers on diabetic rats model	NT 1–02	Kusmadewi Eka Damayanti	Iron–rich food analysis to be potential source for food–based approach on iron deficiency anemia prevention	ID 1–03	Helmia Farida	Urinary Tract Infection caused by ESBL producing Strains in Pediatric Patients Hospitalized in dr. Kariadi Hospital	HN 1–02	Henni Kusuma,	Phenomenology Study : Analysis Of Support Group Holistic Needs Among Patient With Chronic Kidney Disease And Family At Hemodialysis Unit In Semarang Central Java

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11.20 – 11.30	DD 1–03	Diana Novitasari	The effect of Cinnamomum burmanii and Lagerstroemia speciosa combination (DLBS3233) on superoxide dismutase (SOD) activity in type 2 DM patients	NT 1–03	Nurlienda Hasanah	Vegetables are the Most Correlate with Blood Pressure in Outpatient of Dinoyo Community Center in Malang, Indonesia: a Case–control Study	ID 1–04	Rahajeng N. Tunjungputri	Interrelationship of platelet number and reactivity with plasma cytokines, acute phase proteins and cytokine responses in the 500–Human Functional Genomics cohort of healthy volunteers	HN 1–03	Fatikhu Yatuni Asmara	Implication of Learning Styles on Learning Process of Nursing Students

SESSION 2												
Session Chair:	dr. Darmawati Ayu I, M.Si.Med			Gemala Anjani, S.P., M.Si., Ph.D			dr. Rebriarina Hapsari, M.Sc			Ns. Sri Padmasari, S.Kep., MNS		
Evaluator	dr. Darmawati Ayu I, M.Si.Med; Megumi Yamamoto, MD., Ph.D; Prof. Christine Imbert, Ph.D			Gemala Anjani, S.P., M.Si., Ph.D, Prof. Peter Emery, Assoc. Prof. Akio Ohta			dr. Rebriarina Hapsari, M.Sc; Prof. Dr. Muhammad Hussein Gasem, PhD., Sp.PD., K–PTI, Prof. Andre van der Ven			Ns. Sri Padmasari, S.Kep., MNS, Assoc. Prof. Jennieffer Barr, Ph.D, Meidiana Dwiyanti, S.Kp., M.Sc		
PIC Room	dr. Galuh Hardaningsih, M.Si.Med, Sp.A			drg. Nadia Hardini, Sp.KG			drg. Ananta Herachakri Pitaloka, Sp.Ort			dr. Mahayu Dewi Ariani, M.Si.Med		
TIME	CODE	PRESENTER	TITLE	CODE	PRESENTER	TITLE	CODE	PRESENTER	TITLE	CODE	PRESENTER	TITLE
15.45 – 15.55	DD 1–04	Udin Bahrudin	Inhibition of ubiquitin proteasome system by local anesthetics pilsicainide and lidocaine	NT 1–04	Retno Murwani, Andrew Johan,	Low Glycemic Index Noodles Snack From Yellow Sweet Potato (Ipomoea Batatas) And Pumpkin	ID 1–05	Agatha Magistalia Cahiadewi	The Effect of Zinc Supplementation on The Number of Eosinophil in the Lungs of Allergic Patients Experimental	HN 1–04	Sang AyuKetut Candrawati	The Effect of Mindfulness with Gayatri Mantra to Reduce Anxiety in Elderly

Oral Presentations

Time												
						(Curcubita Moschata) Blend			Study on BALB/c mice with Ovalbumin Sensitization			
15.55 – 16.05	DD 1–05	Ancah Caesarina	The dose dependence analysis of the water fraction of Merremia mammosa (Lour.) extract on diabetic wound healing enhancement	NT 1–05	Rizki Karunianti Agustina,	Antioxidant Activity and Soluble Protein Content in Tempeh Gembus Hydrolysate	ID 1–06	Runjati	The impact of antenatal Coping Skill Classes (ACSC) towards Cortisol and IgG Serum Level among Pregnant women	HN 1–05	Heru Suwardianto	Effects of Physical–Cognitive Therapy on Increasing Physical and Cognitive Functions in Critical Patients at Intensive Care Unit
16.05 – 16.15	DD 1–06	Nur Rohmah Suwandi	Supplementation of Freeze–Dried Strawberry Powder Reduced Malondialdehyde (MDA) Levels and Improved Testes Histology of Diet–Induced Obesity in Male Rat	NT 1–06	Retno Murwani	Administration of Tempeh Deep Fried in Vitamin A Fortified or Unfortified Palm Oil to serum Retinol of Mice (Mus musculus)	ID 1–07	Satrio Adi Wicaksono	The Effects of Melatonin on Random Blood Glucose Levels in the Wistar Rats Model of Sepsis	HN 1–06	Anggorowati Anggorowati	Effects of Engineered Stimulation of Oxytocin on Hormonal Status of Postpartum Women
16.15 – 16.25	DD 1–07	Ummi Chamidatun Nadliroh,	Muntingia calabura Leaves Extract, A Potential Gastroprotective Agent Against Gastric Mucosal Damage Induced by Soft Drink and Alcoholic Beverages	NT 1–07	Etisa Adi Murbawani	Sensitivity And Specificity Of Neck Circumference As An Indicator For Metabolic Syndrome In Obese Teenagers	ID 1–08	Kis Djamiatun	Annona muricata effect towards spleen–CXCL10 during severe malaria infection of Plasmodium berghei ANKA in swiss mice	HN 1–07	Megah Andriany	The return of a correctional tuberculosis nurse's professional values: A narrative study

16.25 – 16.35	DD 1-08	Dimas Banurusman Lululangi,	Effect of Muntingia calabura Leaf Extract as Protective Agent against Spermatogenesis Damage Induced by Alcoholic Beverage and Soft Drink	ID 1-010	Yuniati R	Role Of Red Fruit (Pandanus Conoideus) Towards Photoaging Inhibition In Balb/C Mice Skin	ID 1-09	Ashur Almurabt	Impact of acute stress on innate immune response to hepatitis B vaccine in vaccinated Wistar albino rats	HN 1-08	Raihany Sholihatul Mukaromah	Effects of IDEAL Discharge Planning on the Quality of Documentation Implementation of Patients with Chronic Kidney Disease at Internal Wards
16.35 – 16.45	DD 1-09	Fulyani F	GlnPQ as a novel target for drug development against gram positive bacteria				ID 1-011	Munita F.F	Distribution Of CD4+RORg-T Th17 And CD25+ FOXP3+ Treg In Leprosy Patien With Reversal Reaction	HN 1-09	Veronika Toru	Effects of SBAR Communication through Telephone on the Improvement of Effective Communication in Implementing the Patient Safety Program
16.45 – 16.55	DD 1-010	Sari Sudarmiati	The Effect Combination Of A Progressive Relaxation, Hypnosis, And Aromatherapy To Dysmenorrhea				ID 1-012	Dhelya Widasmara	The Evaluation Of Pmp22 And Protein O, Examinationsfor Early Disability Detection In Leprosy Patients	HN 1-010	Brigitta Ayu Dwi Susanti	The Effect of Coffee as an Oral Hygiene on Head and Neck Cancer Patients for Comfort Levels
16.55 – 17.05										HN 1-011	Vivi Leona Amelia, Poppy Fitriani	Grocery Store Tour to Promote a Healthy Food for Schoolchildren
17.05 – 17.15										HN 1-012	Astuti	The Effect Of Self Management Towards Psychosocial Adjustment

													Chronic Kidney Disease Patients With Hemodialysis

DAY 2 (October 28th 2017)												
SESSION 3												
	Degenerative and Oncology (Room 1)			**Endocrinology (Room 2)**			**Neuroscience (Room 3)**			**Cardio Metabolic (Room 4)**		
Session Chair:	dr. Darmawati Ayu I, M.Si.Med			dr. Tun Paksi Sareharto, M.Si.Med., Sp.A			dr. Maria Belladonna Rahmawati S., M.Si.Med, Sp.S			dr. Sulistiyati Bayu Utami, Ph.D, Sp.JP		
Evaluator	dr. Darmawati Ayu I, M.Si.Med, Prof. Dr. dr. Ignatius Riwanto, Sp.B., Sp.BKBD, Prof. Chihaya Koriyama, MD., Ph.D			dr. Tun Paksi Sareharto, M.Si.Med, Sp.A; Prof. Frank de Jong, Ph.D, dr. Achmad Zulfa Juniarto, M.Si.Med., Sp.And., Ph.D			dr. Maria Belladonna Rahmawati S., M.Si.Med, Sp.S, Prof. dr. Zainal Muttaqin, Ph.D., Sp.BS, Assoc. Prof. Hirofumi Hirano, MD			dr. Sulistiyati Bayu Utami, Ph.D, Sp.JP, Dr. dr. Anwar Santoso, Sp.JP, FIHA, FAsCC, FICA ; dr. Bambang Widiantoro, Ph.D., Sp.JP., FIHA		
PIC Room	Dr. dr. I Edward Kurnia, MH.Kes, Sp.PK			dr. Donna Hermawati, M.Si.Med			dr. Anna Mailasari, Sp.THT-KL			dr. Desy Armalina, M.Si.Med		
TIME	CODE	PRESENTER	TITLE	CODE	PRESENTER	TITLE	CODE	PRESENTER	TITLE	CODE	PRESENTER	TITLE
10.45 – 10.55	DG 1-01	Satrio Adi Wicaksono,	Comparison of serum p substance levels in pre and post thyroid surgery patients given 0.25% bupivacaine analgesic by bilateral superficial cervical plexus block (BSCPB)	ED 1-01	Yayun Siti Rochmah,	Polimorphism C677T MTHFR gene, A1298C MTHFR gene , MSX1 gene as Risk Factor Celft Lips With or Without Cleft Palate Non Syndromic at Sasak Tribe Lombok Indonesia	NS 1-01	Donna Hermawati	Early Electronic Screen Exposure and Autistic–like Symptoms: A preliminary study	CM 1-01	Banundari Rachmawat	Homocysteine Levels And Lipid Profile On Non–Diabetic Individuals And Diabetic Individuals With And Without Cardiovascular Complications
10.55 – 11.05	DG 1-02	Syarifah Dewi,	The viability of doxorubicin–treated human breast cancer stem cells associated to the PCNA and BIRC5 gene expression	ED 1-02	Ervina SofyanH	Polymorphism in 4'-UTR region of PITX2 gene in vertical mandible asymmetry	NS 1-02	Dian retno utari	Identification of Sudden Unexpected Death in Epilepsy (SUDEP) Based on Forensic Odontology Sciences	CM 1-02	Novi Anggriyani	Effect of Remote Ischemic Preconditioning in Periprocedural Myocardial Injury Events in Elective Percutaneous Coronary Intervention

Time	Code	Presenter	Title	Code	Presenter	Title	Code	Presenter	Title	Code	Presenter	Title
11.05 – 11.15	DG 1-03	Helmi Sastriawan,	The Effectiveness of Phaleria Macrocarpa and Chemotherapy in Increasing Caspase 3 and Apoptotic Index in Epidermoid Carcinoma	ED 1-03	Achmad Zulfa Juniarto	Microdeletion of Azoospermia Factor Region (AZF) in Hypospadiapatients : A predictor factor for infertility	NS 1-03	Hermina Sukmaningtyas	Diagnostic value of fractional anisotropy in detecting hippocampal sclerosis: A study on intractable Mesial Temporal Lobe Epilepsy with normal MRI	CM 1-03	Riana Novita Sari	The Effect of Pilates Exercise on the Quality of Life Domain Physical Health in Obesity Adolescents Measured by WHOQOL-BREF
11.15 – 11.25	DG 1-04	Rickky Kurniawan, MD	Correlation Between PSA Levels With Gleason Score of Adenocarsinoma Prostate Study in Dr Kariadi Hospital Semarang				NS 1-04	Mohamad Sofyan Harahap	The Role Of Dexmedetomidine As Brain Protector Assessed By Cortisol, Il-6 And Cox-2 Concentration In Rat Model Of Traumatic Brain Injury	CM 1-04	Hery Djagat Purnomo,	The Roles of Metabolic Syndrome and Several Biomarkers in Incidence and Severity of Non Alcoholic Fatty Liver Disease
11.25 – 11.35							NS 1-05	Ainun Rahmasari Gumay	The Effect Of Green Tea Epigallocatechin-3-Gallate On Spatial Memory Function, Malondialdehyde And Tnf-A Level In D-Galactose-Induced Balb/C Mice	CM 1-05	Kresna AR,	The Differences of Peak Expiratory Flow Rate Before and After Vertical Run and Jogging Excercise
11.35 – 11.45							NS 1-06	MT Arifin	Brain Tumor cases most oftenly related to Chronic Epilepsy			
11.45 – 11.55							NS 1-08	Muhamad Thohar Arifin	Starting Advance Epilepsy programe in countries with limited resources: Indonesian Experience			

	SESSION 4												
	Degenerative and Oncology (Room 1)			**Epidemiology & Community Medicine (Room 2)**			**Neuroscience (Room 3)**			**Cardio Metabolic (Room 4)**			
Session Chair:	Dr. dr. I Edward Kurnia, MH.Kes, Sp.PK			dr. Donna Hermawati, M.Si.Med			dr. Arinta Puspitawati, Sp.S			dr. Mochamad Ali Sobirin, Ph.D			
Evaluator	Dr. dr. I Edward Kurnia, MH.Kes, Sp.PK , Prof. Dr. dr. Ignatius Riwanto, Sp.B., Sp.BKBD, Dr. dr. Yan Wisnu Prajoko, Sp.B(K)Onk., M.Kes			dr. Donna Hermawati, M.Si.Med, Prof. Dr. dr. Tri Nur Kristina, DMM,M.Kes, Megumi Yamamoto, MD., Ph.D			dr. Arinta Puspita Wati, Sp.S, Prof. dr. Zainal Muttaqin, Ph.D., Sp.BS, Assoc. Prof. Hirofumi Hirano, MD			dr. Mochamad Ali Sobirin Ph.D, Sp.JP, Dr. dr. Anwar Santoso, Sp.JP, FIHA, FAsCC, FICA, dr. Bambang Widiantoro, Ph.D., Sp.JP., FIHA			
PIC Room	Dr. dr. I Edward Kurnia, MH.Kes, Sp.PK			dr. Donna Hermawati, M.Si.Med			dr. Anna Mailasari, Sp.THT-KL			dr. Desy Armalina, M.Si.Med			
TIME	CODE	PRESENTER	TITLE	CODE	PRESENTER	TITLE	CODE	PRESENTER	TITLE	CODE	PRESENTER	TITLE	
15.30 – 15.40	DG 1–05	Moedrik Tamam	Mutation Type And Clinical Manifestations Of Transfusion–Dependent B–Thalassemia/Hbe Patients In Semarang, Indonesia	EP 1–01	Erna Setiawati	The Comparison of Efficacy between Hatha Yoga and Tai Chi at FEV1 and FVC in COPD Patients	NS 1–07	Dwi Pudjonarko	The Role Of Leucocyte And Crp Levels Toward Infarct Volume In Acute Ischaemic Stroke Patients	CM 1–06	Sefri Noventi Sofia	Risk and Early Changes of Left Ventricular Structure and Function in Young Obesity	
15.40 – 15.50	DG 1–06	C.Suharti,	P–Selectinasa Predictor Venous Thromboembolism in Cancer Patients Undergoing Chemotherapy	EP 1–02	Lathifa Putry Fauzia, Ilva Widyaningtyas Savitri	The Association Between Batik Making Process With Cardiorespiratory Function And Musculoskeletal Disorder In Batik Artisan	NS 1–09	Irene Halim, Erni	Effect of Chronic Organophosphate Poisioning on Attention Deficit and Memory Impairment	CM 1–07	Sulistiyati Bayu Utami	Serum Neopterin Levels Related to the In–hospital Adverse Outcome, 3–months Adverse Outcome and Rehospitalization in Patients with Coronary Artery Disease and Diabetes Mellitus	
15.50 – 16.00	DG 1–07	D. Santoso	Inhibition of the Tumour Necrosis Factor–Alpha in Myeloma Pateints with Curcumin	EP 1–03	Jessica Christanti Pualamsyah	Lean Healthcare Approach to Minimizing Waste in Basic Emergency	NS 1–010	Dinie Ratri Desiningrum	Grandparent's Social Support and Psychological Well Being of Elderly (Study in Family of	CM 1–08	Rendi Editya Darmawan	Effects of Neo Automatic Code on the accuracy of chest compression	

Time	Code	Name	Title	Code	Name	Title	Code	Name	Title	Code	Name	Title
						Obstetric and Newborn Care at Brebes and Semarang City, Central Java			Children with Autism Syndrome Disorder)			depths in cardiac arrest patients
16.00 – 16.10	DG 1-08	Eko A Pangarsa,	The Correlation between serum vascular endotholial grow factor (VEGF) levels and size of colorectal cancer tumors	EP 1-04	Johanna Krotzek Seah	Tuberculosis screening and chemoprophylaxis in child contacts: A situational analysis in the community setting	NS 1-011	Innawati Jusup	Combination CBT (Cognitive Behavioural Therapy) And Virtual Reality Effectiveness In Managing Acrophobia	CM 1-09	Dono Indarto	**In silico candidate of aldosterone antagonist for treatment of cardiovascular disease**
16.10 – 16.20	DG 1-09	Yetty M Nency,	Level of Urinary trans,trans–muconic acid as an indicator of benzene exposure in childhood Leukemia	EP 1-05	Saekhol Bakri	Factors That Influence The Quality of Doctor's Services in Children's Diarrhea Cases in Indonesia	NS 1-012	Hardian, Gianina Dinda Pamungkas	Effect Of Caffeine And Brain Trainning On Cognitive Function	CM 1-010	Niken Budiastuti C	The effect of virtual reality game exercise on cardiorespiratory fitness in overweight adolescent meansure by six minute walking test (6MWT)

DAY 1 (October 27th 2017)						
Topic : Endocrine (ED), Epidemiology (EP), Degenerative and Oncology (DG), Neuroscience (NS), Cardiometabolic (CM)						
SESSION 1						
Evaluator:	dr. Mochamad Ali Sobirin, Ph.D, dr. Yetty Movieta Nency, Sp.A(K)			dr. Muhamad Thohar Arifin, Ph.D., PA., Sp.BS(K), dr. Endang Sri Lestari, M.Sc, Ph.D		
PIC	dr. Ainun Rahmasari Gumay, M.Si.Med			dr. Desy Armalina, M.Si.Med		
Time	Group 1			Group II		
11.00 – 11.05	ED 2-01	Putri Nastiti Rarasati	The Association Between Menstrual Cycles And The Severity Of Acne Vulgaris	DG 2-01	Gunawan Santoso	Intermodality agreement between MR diffusion and MR with hepatocyte contrast agent Gadoxetic Acid Disodium (Gd-EOB-DTPA) to determine HCC (A Preeliminary Study)
11.05 – 11.10	ED 2-02	Elza Ibrahim Auerkari	Genetic Aspects of Cleft Lip and Palate: A Literature Review	DG 2-02	Riski Prihatningtias	The Comparisons Of Caspase-3 And Caspase-7 Expression From Retinal Ganglion Cells Apoptosis Post Folic Acid and Methylcobalamine Administrations In Methanol Toxic Wistar Rats Models
11.10 – 11.15	ED 2-03	Elza Ibrahim Auerkari	Genetic and Epigenetic Influences on Orthodontic Tooth Movement	DG 2-03	Mr Eriawan Agung Nugroho, MD, PhD	Relationship of prostate volume with age levels in patients with Benign Prostate Hyperplasia (BPH) In Dr Kariadi Hospital Semarang period of January 2012 – December 2014

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11.15 – 11.20	ED 2–04	Elza Ibrahim Auerkari	Genetic factors associated with Primary Failure of Eruption: A Literature Review	DG 2–04	Eriawan Agung Nugroho, MD, PhD	Association Between Hyperglycemia and Prostate Volume in Patients with Benign Prostate Enlargement in dr.Kariadi Hospital Semarang
11.20 – 11.25	ED 2–05	Isma R	Comparison of the Acute Effect of Light and Moderate Intensity Aerobic Exercise on Cortisol Level in Obese Adolescents	DG 2–05	Antonius Tatit Pulonggana, MD	The Incidence of Comorbid Factors Geriatric and Non– Geriatric Patients with BPH Who Performed TVP Surgery in The Hospital Dr.Kariadi Semarang
11.25 – 11.30	ED 2–06	Robby Cahyadi	Effect of Dolanan Bocah Modification Dance on Balance in Obese Children Aged 7–10 Years Old	DG 2–06	Budi Setiawan	Primary brain lymphoma in a patient with chronic myeloid leukemia
SESSION 2						
15.00 – 15.05	ED 2–07	Retno Hartanti	The effect of Circuit Training on Endurance Abdomen Muscle Assessed by 30 seconds Sit Up test in Obese Children	DG 2–07	Sumekar Tanjung A, M.D., M.Sc.	Autism phenotype in fragile X premutation males is not associated with FMR1 expression: a preliminary evaluation
15.05 – 15.10	ED 2–08	Michael Anthony Nafarin, MD	Erectile dysfunction insidensi prostatectomy reseksi with transurethral following the operation the patient with prostate prostatectomy transvesical prostat enlargement in the Kariadi hospital, Semarang	NS 2–01	Dr. Hardian Hardian	Autonomic Dysfunction Of Chronic Organphosphate Poisoning

15.10 – 15.15	ED 2–09	Darmawati Ayu Indraswari	Mutation Analysis Using Multiplex Ligation–Dependent Probe Amplification (Mlpa) And High–Resolution Melting Curve (Hrm) In Isolated Hypospadias Patients	NS 2–02	Rina Fajarwati	Cocaine–induced midline destructive lesion (CIMDL)
15.20 – 15.25	EP 2–01	Mrs Rany Adelina	BMI correlated to gender, dietary pattern, food access, and meal preparation of Indonesian college students lives in Taipei city, Taiwan	NS 2–03	Hikmatunnisa TA , Qonita NQ	Effect Of Skipping And Running With Music In Short–Term Memory Improving In Young Adults
15.25 – 15.30	EP 2–02	Dwi Pudjonarko	Association of Traumatic Brain Injury with Cognitive Impairment	NS 2–04	Regina Hutasoit	Is Simple Ulnar Nerve Decompression Simple?
15.30 – 15.45	Coffee Break					
15.45 – 15.50	EP 2–03	Puspito Arum	Phenylalanine and Tryptophan Intake of Hyperactive Children With Autism in Autistic Daycare Subdistrict Patrang District Jember	NS 2–05	Muhamad Thohar Arifin	Hemispherotomy for intractabel epilepsy
15.50 – 15.55	EP 2–04	Arisanty Nursetia Restuti	Effects of Smoking On Differential Leucocyte Count Between Smokers And Non Smokers	NS 2–06	Sri Rejeki	Counter–Pressure Of Pain Intensity In Dismenorrhea At Adolescence
15.55 – 16.00	EP 2–05	Kusmiyati DK	Correlation between 25 hydroxyvitamin D levels and leucocyte count, neutrophil limfocyte ratio,c–reactive protein in eldery with anemia and non anemia	NS 2–07	Natalia Dewi Wardani	Depression Symptom On Behavioral And Psychological Symptoms On Dementia (A Systematic Review)
16.00 – 16.05	EP 2–06	Meta Yunia Candra	Variant Methode of Age Estimation Based on Dental Examination	CM 2–01	Evi Nurhayatun	Oral N–Acetyl Cysteine Lowered IL 6 Level Among Stage V Chronic Kidney Disease Patients on

						Continuous Ambulatory Peritoneal Dialysys (CAPD)
16.05 – 16.10	EP 2–07	Cucu Sopiah	Practice Of Hand-Washing In Children Using Educational Media "Magical Box, My Hands Clean Healthy Life	CM 2–02	Elkawati	The Effect of Modified ''Dolanan Bocah'' Dance to Dynamic Gait Index in Obese Children Aged 8 – 10 years old
16.15 – 16.20	EP 2–08	Vivi Leona Amelia	Board Game as An Educational Tool for Dengue Prevention Knowledge for Schoolchildren	CM 2–03	Hesty Oktarini	Effect Of Modified '' Dolanan Bocah'' Dance to Attantion Function In Obese Children Aged 8 – 10 years Old
16.20 – 16.25	EP 2–09	Aras Utami	Compliance of Iron Supplementation, Prevalence And Determinant of Anemia In Pregnant Women	CM 2–04	Hery Djagat Purnomo	TNF-α-gene polymorphisme is likely to be a risk factor for NASH in Indonesia
16.25 – 16.30	EP 2–10	Nurlita Putri Apriliani	Minimizing Waste in Comprehensive Emergency Obstetric And Newborn Care (CEMONC) with Lean Hospital at Brebes and Semarang City, Central Java	CM 2–05	Dwi Ngestiningsih	Differences Of Erythrocyte Fragility And Hemoglobin Levels (Hb) In Light Smokers, Moderate – Heavy Smokers And Not Smokers
16.30 – 16.35	EP 2–11	Fatmawati H	Correlation Between Risk Factors Of Aneurysms With Rupture Of Intracranial Aneurysms	CM 2–06	I Putu Sudayasa	Relationship Waist Circumference, Thick of Skinfolds and Genes Polymorphism of Angiotensin-Converting Enzyme Insertion/Deletion with Hypertension in Coastal Community
16.35 – 16.40	EP 2–12	Fajaria Nurcandra	Duration of Spraying Effect to Neurological Disorder Among Farmers in Purworejo, Indonesia	CM 2–07	Sulistiyati Bayu Utami	The Correlation between Serum Lactate Levels to the Lenght of Stay in Intensive Care Unit in

							Patients with Rheumatic Valvular Heart Surgery
16.40 – 16.45	EP 2–13	Tri Purwidi Hastuti, Lintang Dian Saraswati, Praba Ginandjar	The Adherence Of Taking Medicines With Conversion Of Acid Fast Bacillus Of Pulmonary Tuberculosis Patients With Positive Acid Fast Bacil (Retrospective Cohort Study In The Center For Pulmonary Health Semarang)	CM 2–08	Sulistiyati Bayu Utami	The Correlation between Serum Lactate Levels to the Lenght of Stay in Intensive Care Unit in Patients with Coronary Artery Bypass Grafting Surgery
16.45 – 16.50	EP 2–14	Muflihatul Muniroh	Profile of Heavy Metals as Environmental Toxicants in Volcanic Area Dieng, Central Java, Indonesia	CM 2–09	Dwi Khoirriyani	The Difference in Cognitive Functions between Patients with Acute Coronary Syndrome with and without ST Segment Elevation
16.50 – 16.55	EP 2–15	Tri Nur Kristina	The Efficacy of Education with the WHO Dengue Algorithm on Correct Diagnosing and Triaging of Dengue-Suspected Patients, Study In Public Health Centre	CM 2–10	Dwi Khoirriyani	The Differences in Cognitive Functions betweeen Patients with Severe and Non-Serve Mitral Regurgitation
16.55 – 17.00	HN 2–25	Laelia Dwi Anggraini	The Difference Between Pre-Induction Methods Between Boys & Women 4–8 Years Toward Anxiety Level (Research on Dental Hospital UMY and their networks)	CM 2–11	Julian Dewantiningrum	Level of hsCRP maternal serum during puerperium of severe preeclampisa
17.00–17.05				CM 2–12	Indranila KS	The Correllation between Blood Glucose (BG) , Hypertension (HT) , Proteinuria, Blood Sedimentation Rate (BSR) and Differential Blood Count(DBC) in Prolanis patients (DM type 2 and Hypertension) through molecular action

DAY 2 (October 28th 2017)					
Topic : Drug Discovery (DD), Infectious Disease (ID), Holistic Nursing (HN), Nutritional (NT)					
SESSION 3					
Evaluator:	Dr. Anggorowati, S.Kp.,M.Kep.Sp.Mat, Dr. Khairul Anam, S.Si, M.Si			dr. Bahrudin, M.Si.Med., Ph.D, dr. Helmia Farida M.Sc, Ph.D, Sp.A	
PIC	Dr. Anggorowati, S.Kp.,M.Kep.Sp.Mat			drg. Nadia Hardini, Sp.KG	
Time	Group I			Group II	
10.45 – 10.50	HN 2-01	Fitria Handayani	Psychosocial Associated Factors and Predictor of Post Stroke Depression of Stroke Ischemic after 3 to 6 Month Onset	DD 2-01	Erien Afrinia Asri	The Benefits Of 1% Soy Isoflavones Cream As An Anti Acne Vulgaris
10.50 – 10.55	HN 2-02	Desy Indra Yani	Developing a Community-Based Health Education Program for Tuberculosis Care and Prevention	DD 2-02	Budi Yuwono drg	Effectiveness Aromatherapy of Essential Oil Cabe Jawa (Piper retrofractrum, Vahl) To Blood Pressure, Pulse, and Respirations of Patient Before Teeth Extraction
10.55 – 11.00	HN 2-03	Reza Indra Wiguna	Build a Academic Achievement Of Nursing Student By Reduce Anxiety Through Spiritual Mindfulness; A Systematic Review	DD 2-03	Widyaratni Pramestisiwi	The Effect Of Nigella Sativa Extract On Interleukin 12 Level Of Multibacillary Leprosy Received Who-Mdt Therapy
11.00 – 11.05	HN 2-04	Yanuar Akhmad	Effectiveness of Mindfulness on Decreasing Stress in Health Professional Students: A Systematic Review	DD 2-04	Amanah Amanah, Ika Komala, Maria D Kurniasari	Effect Of Mangosteen (Garcinia Mangostana) Peel Extract Towards Cd4+, Cd8+ T Lymphocytes, Cd38 Expression, Nk Cells, Il-2 And Ifnγ In Hiv Patients With Antiretroviral Therapy

11.05 – 11.10	HN 2-05	Eltanina Ulfameytalia Dewi	Using Psychoeducation for Family with Schizophrenia Patients in Community Level: A Review	DD 2-05	Gede Arya Bagus A	Antiretroviral side effect on adherence in plwha at dr. Kariadi general refferal hospital semarang central java
11.10 – 11.15	HN 2-06	Khoiroh Umah	Physical Independence Deskription On Patients Of Tuberkulosis In Puskesmas Deket District Lamongan Regency	DD 2-06	Imelda	Effect of tempuyung leaf ethanol extract on kidney morphometric parameters in gentamicin treated rats
11.15 – 11.20	HN 2-07	Meidiana Dwidiyanti	Level Of Self Care And Its Correlation With Self Confidence And Social Activity Of Tuberculosis Patient	DD 2-07	Puruhito B	Utilization Aloe Vera And Virgin Coconut Oil (Vco) Extract For Broken Heel
11.20 – 11.25	HN 2-08	Tri Sakti Widyaningsih, Ayu Eka Y Maesari	Correlation Basic Task Of The Mother Based On The Status Of Work With The Level Of Independence Of Toddler In Tlogotunggal Village Sumber Sub District Regency Of Rembang	DD 2-08	Syafira Noor Pratiwi	Effect Of Papaya Leaves Jelly On Reducing Blood Pressure In Prediabetic Women
11.25 – 11.30	HN 2-09	Heru Ginanjar Triyono	A Systematic Review on Factors Influencing the Burden of Family Caregivers in Caring for Elderly with Dementia	DD 2-09	Fifin Luthfia Rahmi	Expression Of Caspase 3 And Caspase 7 In Trabecular Meshwork Of Glaucoma Model Wistar Rat
11.30 – 11.35	HN 2-10	Prita Adisty Handayani	Mindfulness as Balancing For Workers in a Working Health Perspective: A Systematic Review	DD 2-10	Amallia N. Setyawati	The Effect of Zinc Supplementation on Serum Albumin in Elderly Population
11.35 – 11.40	HN 2-11	Meidiana Dwidiyanti	Mechanism of Change in Self Care in Adult with Chronic Ilness Receiving Self Management Program: Systematic Review	ID 2-01	Edward KSL	The Difference Of D-Dimer Value Between Chronic Hepatitis And Cirrhotic Hepatic

11.40 – 11.45	HN 2-12	Ardi Pramono	The Satisfaction Level of Post-Surgery Patients Between Regional And General Anaesthesia at PKU Muhammadiyah Gamping Hospital Yogyakarta	ID 2-02	Mohammad Ghozali	CD14/CD69 Monocyte as a Chronic Inflammation Marker in Iron Overload Pediatric Major β-thalassemia
11.45 – 11.50	HN 2-13	Margiyati	The Effects of Hypnotherapy using Induction Hanung Technique on the Level of Cigarette Dependence and Carbon Monoxide in Exhaled Breath among Active Smokers	ID 2-03	I Dewa Ayu Ratna Dewant	Robusta Coffee Beans Increased Level Of IL-1β (Interleucine-1β) Monocytes Against To Streptococcus mutans In Vitro
11.50 – 11.55	HN 2-14	Retno Lusmiati Anisah	Peer Educators' Competences for Inmates with HIV/AIDS: A Systematic Review	ID 2-04	Erna Tsalatsatul Fitriyah	Role of Infection and Prevention Control Nurse (IPCN) In Preparing for Emerging Infectious Disease
SESSION 4						
15.00 – 15.05	HN 2-15	Susana Nurtanti	Case study: subjects characteristics, causa factors, methods and community responses of suicide	ID 2-05	Sheila Lestari	Correlation between HPV Vaccination and Cervical Cancer Incidence in Southeast Asian Population
15.05 – 15.10	HN 2-16	Nita Yunianti Ratnasari	Holistic Nursing Practice In Complementary Therapy	ID 2-06	Geofanny Facicilia	The Identification of Antibiotics-Resistant Bacteria Isolated from Ciliwung River in Jakarta and Bogor
15.10 – 15.15	HN 2-17	Sri Handayani	Determinant Factors of Exclusive Breastfeeding : A Literature Review	ID 2-07	Febrianto P Putro	Analysis of the risk of shunt failure or infection related to cerebrospinal fluid cell count, protein level, and glucose levels in hidrocephalus patients
15.15 – 15.30	Coffee Break					

15.30 – 15.35	HN 2–18	Sri Padma Sari	The Prevalence of Religious Coping and Religious Practices among Patients with Schizophrenia	ID 2–08	Satrio Adi Wicaksono	The Effects of Melatonin to the Level of Lactate Acid in the Wistar Rats Model of Sepsis
15.35 – 15.40	HN 2–19	Siti Munawaroh	Effect of Spiritual Mindfulness in the Peer Group to the Coping Ability in Dealing with Stress on Pregnant Woman Primipara; a Systematic Review	ID 2–09	Rizqi Indah Riani	The Effects of Melatonin on Leukocyte and Platelet Count in the Wistar Rats Sepsis Model
15.40 – 15.45	HN 2–20	Ikhda Izzatul Aqiilah	Gardening Therapy : A solution to reduce stress levels in elderly	ID 2–10	Anugrah Riansari	Prevalence and Risk Factors Toxoplasmosis in Semarang
15.45 – 15.50	HN 2–21	Arni Nur Rahmawati	Mindfulness, Stress, and Family Well-being in Work Parents: A Systematic Review	ID 2–11	Sri Wahyuni, M.Mid	The Affects Of Spiritual Psychoeducation For Perinatal Stress And Depression Symptom On Primigravida
15.50 – 15.55	HN 2–22	Ita Apriliyani	The Role Of Peer Group In Overcoming Depression In Adolescent	ID 2–12	Winarto Reki	The effects of acute stress on primary immune response of hepatitis B vaccination. Study in Wistar albino rats
15.55 – 16.00	HN 2–23	Nurullya Rachma	Effectiveness Self Help Groups on Anxiety, Stress and Depression Level in Elderly At Nursing Homes in Semarang	ID 2–13	Yuniati R	Il-6 Level In Patient With Reversal Reaction Of Leprosy
16.00 – 16.05	HN 2–24	Purnomo	Effectiveness Intervention To Reduce Stress In Adolescence With Self Help: Systematic Review	ID 2–14	Yuniati R	Histamine Level In Patient With Reversal Reaction Of Leprosy
16.05 – 16.10	HN 2–26	Claudia Fariday Dewi	Effects of Progressive Muscle Relaxation Intervention with Music and Aromatherapy on Decreasing Stress Level in School Teachers	ID 2–15	Munita F.F	TNF-α Level In Leprosy Patients With Reversal Reactions

16.10 – 16.15	HN 2–27	Deni Irawan	Early Warning Score as a triage system increases response times of patient management in Emergency Departments	ID 2–16	Nur Farhanah	4G/5G Plasminogen Activator Inhibitor–1 Polymorphisms and Leptospirosis
16.15 – 16.20	HN 2–28	Anna Jumatul Laely	Effect Of Mindfulness Intervention on the Intensity of Pain And Anxiety in Nasopharingeal Cancer Patients	ID 1–01	Hendra Wijaya	Isolation of Jack Bean (Canavalia ensiformis (L.) DC) Proteins to Create A Skin Prick Test Reagent For Jack Bean Allergy Diagnosis
16.20 – 16.25	NT 2–01	I Nengah Tanu Komalyna	Diet Setting To Decline Heavy Weight And Abdominal Circumference Of Obesity Clients On Slimming Program In Pacific Slimming, Beauty & Spa Malang City			
16.25 – 16.30	NT 2–02	Yulvina	Effects of Pilates Exercise on Anthropometry of The Obese Adolescents			
16.30 – 16.35	NT 2–03	I Putu Sudayasa	Correlation Between Eating Habits on Pregnant Women With Birth Weight of Baby in Coastal Area			
16.35 – 16.40	HN 2–29	Arief Shofyan Baidhowy,	Qualitative Study of Nurse Clinical Reasoning With Heart Failure Patients			
16.40 – 16.45	HN 2–30	Amalin D.B.	How quality of life of patients with fertility problem is related to their anxiety and depression?			

Ethical aspect on translational research

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Translational research is carried out from bench to bedside and are increasingly demanding. One of the example of contemporary translational research is stem cell study. From the translation of biomedical research knowledge to effective clinical treatment is essential the public good. On the other side when too many important new discoveries that could be implemented into new genomic diagnostics and treatments, will be developing what people globally, they can not achieve the "Personalized Medicine", but most of the population, are still having conventional medicine (Maischein et al, 2015).

"Ethical approach and ethical problems on "Translational Research", really as an important topic that should be learned and discussed seriously.
Learned from the above condition, many question could be developed, such as:

- What kinds of ethical problems and how to carried out the ethical approach on translational research (?)
- Who can involve in the translational research (?)
- The potential risks and benefits that may be associated with the clinical trials have to be considered
- Is there any disenting opinions, if the vulnerable population will be the human research participant?
- What about the translational research in Indonesia?

Antimicrobial resistance formation: a global threat

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For a long time, there has been great optimisms about the human capacity to fight infectious diseases. This optimism was driven by the result of different strategies to prevent and controls infectious diseases such as vaccinations, hygiene measurements and infection prevention control measurements. In addition, the development of different classes of antimicrobial agents made effective treatment also possible.

The original favorable results had a significant impact on healthcare and reduction of morbidity and mortality. The original optimism is however seriously tempered in recent years because of emergence antimicrobial resistance formation. Underlying reason is the massive and uncontrolled use of antimicrobial agents in humans and animals worldwide. UN Secretary-General Ban Ki-moon therefore stated that antimicrobial resistance poses "a fundamental, long-term threat to human health, sustainable food production and development." Furthermore, he mentioned that "It is not that it may happen in the future. It is a very present reality – in all parts of the world, in developing and developed countries; in rural and urban areas; in hospitals; on farms and in communities". Rational prescription of antimicrobial agents and infection control measurements are therefore urgently needed. Increased awareness, better diagnostic tools and antibiotic stewardship programs are an important tool in the fight against antimicrobial resistance formation which will be discussed during the presentation.

SARS, Influenza, Ebola, MERS, Zika: what have we learned?

Ab Osterhaus

'TiHo-RIZ', Hannover, Germany

ABSTRACT

Complex relationships between humans and animals have created an interface that allowed cross-species transmission, emergence and eventual evolution of a plethora of human pathogens. Until 1900, infectious diseases were the major cause of mortality of humankind, causing an estimated fifty percent of all deaths.

In the western world, this decreased to only a few percent, due to the implementation of public health measures and the introduction of vaccines and antimicrobial compounds. This prompted policymakers and scientists to speculate that soon human infectious diseases would be brought under control. Paradoxically, soon thereafter the world was confronted with an ever-increasing number of (re-)emerging infectious diseases, like AIDS, Avian flu, SARS, MERS, Ebola, and Zika spilling over from animal reservoirs. A complex mix of predisposing factors in our globalizing world, linked to major changes in our societal environment and global ecology, collectively created opportunities for viruses and other pathogens to infect and adapt to new animal and/or human hosts. This paved the way for the unprecedented spread of infections in humans and animals with dramatic consequences for public and animal health, animal welfare, food supply, economies, and biodiversity. It is important to realize that due to the complex and largely interactive nature of the predisposing factors, it is virtually impossible to predict what the next pathogen threat will be, from where it will come and when it will strike. However better understanding of the underlying processes may eventually lead to predictions that would improve our preparedness for outbreaks in humans and animals. Investment in a better understanding the human-animal interface will therefore offer a future head start in the never-ending battle against infectious diseases of humans. Importantly, the increased emergence of viral infections is largely paralleled by medical, veterinary, technological, and scientific progress, continuously spurred by our never-ending combat against pathogens. Especially the establishment of vaccine development platforms, widely applicable to both known and unknown viruses will further contribute to an R&D based response preparedness.

Drug discovery and personalised medicine for cancer: the impact of translational research

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The drug discovery and development today is a long and challenging process beginning with basic research that translates clinically into a medicine to benefit many patients some 10 - 15 years later. Disappointingly, almost 85% of preclinical anticancer agents entering clinical trials fail to demonstrate sufficient safety or efficacy to gain regulatory approval.

This high failure rate emphasises a weak understanding of the complexity of human cancer and the drawbacks of the predictive value of the current preclinical models, mainly due to ineffectiveness in mimicking the human conditions. Hence, there is a need for experimental systems that better replicate the diversity of human tumour biology in preclinical settings. Nevertheless, establishing the proof-of-concept in these settings requires increasing the stake for basic research to provide specific features for successful development of a medicine that meets the health needs of millions of patients. In order to achieve this, incorporation of translational research (TR) assures higher success of drugs in clinical trials. TR is a multidirectional and multidisciplinary integration of pre-clinical, clinical and population-based research, with a long term aim of improving the health of the public. Pharmacogenetics/ pharmacogenomics (PGx) research, an integral component of TR, aims to evaluate the association between candidate gene polymorphisms with treatment outcome, holds enormous potential in transforming drug discovery and personalised medicine. Essentially, almost 5000 druggable genetic targets had been appropriately mapped and can both serve as nidus for drug development and predicting treatment outcome especially in tandem with the impact of the genetic polymorphism carried by patients. An overwhelming number of the commonly used preclinical tumour models do not mimic the human counterpart with respect to common mutations, genetic polymorphisms, tumour vascularisation, tumour microenvironment and metastatic spread. These factors have been implicated in failures to translate highly promising preclinical therapeutic findings into successful clinical trials. A battery of models especially for cell lines, genetically engineered organisms (GEO) and transplantation models like patient-derived xenografts (PDX) can reciprocate one another in re-enacting the heterogeneous characteristic of human tumour both histologically and molecularly. The consequence of such models like PDX, which truly reflect the histologic and mutational features of tumours in patients is a higher success rate of new drugs in clinical trials. Additionally, application of disease models harbouring commonly mutated proteins in humans that could serve as good drug targets would ensure a more successful translation of drug efficacy in humans. In this presentation, I will describe my group's efforts in incorporating TR for drug discovery and the development of personalised medicine (via PGx research) for cancer.

Targeted treatments in intellectual disabilities

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The Human Genome Project allowed the development of animal models for known genetic mutations that cause intellectual disability (ID). Subsequently targeted treatments have been developed that can rescue the neurobiological abnormalities in several animal models for ID and the translation of these treatments to patients with ID has been studied.

Many neurobiological commonalities have been found across several types of ID including several forms of ASD suggesting that a targeted treatment developed for one disorder may help several other disorders. For instance, an imbalance between excitatory and inhibitory pathways is seen in ASD, Fragile X syndrome (FXS), SHANK 3 mutations, Angelman Syndrome and Rett Syndrome. Often this imbalance can be related to GABA deficits but also upregulation of the glutamate systems is also seen. Deficits in FMRP levels in the brain can not only be seen in FXS but are also present in Schizophrenia, ASD, Major Depression and Bipolar Disorder so that targeted treatments that improve also the neurobiology when FMRP is deficient may be helpful for all of these disorders. Fragile X syndrome has led the way in the use of targeted treatments for ID and results from mGluR5 antagonists and GABA agonists including arbaclofen and ganaxolone will be presented. The IGF-1 analogue, Trofinetide has been helpful in Fragile X syndrome and also in Rett syndrome. A new GABA A agonist, Gaboxadol, is currently in trials in Angelman syndrome and trials will start in Fragile X syndrome in early 2018. Minocycline which lowers MMP9 has been helpful in a controlled trial in Fragile X syndrome and limited studies have been done in Angelman syndrome. Low dose sertraline which boosts BDNF has been beneficial in young children with Fragile X syndrome and it is now in a controlled trial for idiopathic ASD. Metformin is a newly recognized targeted treatment that appears to be beneficial in FXS with open label studies. Part of the difficulty in translating benefits from the mouse model to patients is that outcome measures have not been quantitative for benefit to the CNS and behavioral questionnaires are often biased because the families want to see a beneficial effect in their children. New outcome measures will be highlighted including event related potentials (ERPs), eye tracking studies with the Tobii eyetracker, cognitive measures with the NIH toolbox and molecular biomarkers and these outcome measures will help to confirm benefits from new targeted treatment studies. Realization that the earlier the intervention the better, in terms of reversing neurobiological abnormalities, has been emphasized in recent trials, so that brain development can progress without deficits as long as the medication is safe in young children. In addition, combining a targeted treatment with an intensive educational endeavor, such as parent implemented language intervention (PILI) may add a synergistic effect to further improve development. The FX-LEARN study which combines AFQ056 with PILI for children ages 3 to 6yo with Fragile X syndrome is an example of such a trial. The future looks bright for targeted treatments for ID.

Endocrinology and obesity

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Body weight depends on the balance between food intake and energy expenditure, which can be affected by a large number of factors, causing either decreased or increased body weight. These factors are secreted by various organs in the body, are transported by the blood stream and act by signalling to the satiety centres in the central nervous system. For this reason, they are part of the endocrine system.

Many of these hormones were discovered by studying experiments of nature, in which mutations of one of these were detected. Examples are the Ob gene encoding the fat cell derived protein leptin and pro-opiomelanocortin (POMC), both leading to severe obesity by obliterating the anorexigenic signals of the hormones. Of course, mutations in the receptors for leptin or POMC lead to similar phenotypes. In contrast, ghrelin is an orexigenic peptide, secreted by the empty stomach. Much of the effort aimed at curing obesity is aimed at finding a ghrelin antagonist. Apart from these peptide hormones, classical hormones like thyroid hormones and glucocorticoids also affect body weight: hyperthyroidism leads to a decrease and hypercorticism to an increase by direct effects on metabolism. Finally, body weight also has effects on the classical endocrine system: obesity can be linked to diabetes mellitus type 2 and affects gonadal, adrenal and thyroid function. All of these aspects indicate the importance of the fight against obesity.

Direct transdifferentiation of human fibroblasts into smooth muscle cells and osteoblasts for drug discovery and functional analyses of mutations

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Introduction: Induced pluripotent stem cells (IPSC's) are created by genetic changes in somatic cells. These changes alter the differentiation potential of the cells. Consequently, IPSC's are not suitable for functional analyses of the effect of inherited mutations or medication on differentiation. Therefore, we developed protocols, based on use of growth factors, for direct transdifferentiation of human skin fibroblasts into osteoblasts or smooth muscle cells (SMC's), to study

Fybrodysplasia ossificans progressiva (FOP) and Thoracic aortic aneurysms and dissections (TAAD). FOP is a rare genetic disease, that is caused by mutations in the *ACVR1* gene that lead to aberrant BMP signalling. This causes bone formation in skeletal muscles after inflammation. TAAD can be caused by a large number of genes, many of which affect SMC differentiation.

Methods: We used fibroblasts from patients with FOP or TAAD to study mutations that affect differentiation of osteoblasts or SMC's respectively. Cells from FOP patients were also used for drug discovery. Differentiation of SMC's was induced with TGFβ1 and of osteoblasts with a lysate of human blood platelets. Differentiation was tested by QPCR of cell-type specific genes, proteins were tested with immunohistochemistry.

Results: QPCR and immunohistochemistry showed evidence of osteoblast and SMC differentiation. The pathogenic effect of mutations was shown in patients with FOP or TAAD. Small molecule compounds were screened *in vitro* in cells from FOP patients. Four compounds were identified that inhibited osteoblast differentiation. In TAAD patients, mutations were shown to affect mRNA splicing and SMC contraction.

Conclusion: Transdifferentiation of human fibroblasts is a fast and promising method to test the effect of mutations and medication in inherited disorders.

Keywords: *transdifferentiation, drug discovery, FOP, TAAD*

Finding new active compounds from natural resources to control fungal biofilms

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Candida spp. yeasts are the most common fungal opportunistic pathogens in humans, causing both mucosal and systemic infections, particularly in immunocompromised patients. *Candida albicans* has the capacity to form single-species and polymicrobial biofilms that are associated with both biotic (mucosa, skin...) and abiotic surfaces (dental devices, vascular catheters,...) and are important infectious reservoirs. *Candida* spp. biofilms are responsible for numerous device-related candidiasis and would need to be rapidly eliminated to avoid infection. Unfortunately, the management of fungal biofilm-related infections still remains difficult since sessile microorganisms are mainly characterized by a lack of susceptibility to conventional antifungal agents.

This presentation will deal with new strategies that may contribute to eradicate already-formed *Candida sp.* biofilms in a curative way, or to prevent their formation in a prophylactic one. We will present our results showing the anti-adherent, anti-maturation or dispersing activity of certain natural compounds especially extracted from red berry fruits and lichens thanks to bioguided approaches; the methods used for fractionation will be presented, they have been done either in our lab either by collaborators in Limoges (France) or Tours (France) universities.

For red berry fruits, the idea is that these natural foodstuff sources are mainly consumed as juice, fresh- or dried-fruits for their gustatory interest or as functional food and may help to prevent dental caries and *Candida* oral biofilms; in addition, some components extracted from these fruits or from other natural sources such as lichens may lead to produce new molecules active against biofilms and thus may help to develop new antifungal strategies. In conclusion, even if clinical data are needed to confirm their interest in clinical settings, some components isolated from natural resources are very promising to combat *Candida* biofilms.

Experimental findings on methylmercury toxicity and its prevention

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Minamata disease is caused by methylmercury (MeHg) poisoning. MeHg is a well-known environmental neurotoxicant, which is absorbed from the gastrointestinal tract and crosses the blood-brain and placental barriers. In patients with Minamata disease, histochemistry shows mercury to be widely distributed in the cerebrum and cerebellum, particularly in macrophages and glial cells. Our research aims to elucidate MeHg toxicity and its prevention; the presentation will cover four topics using *in vivo* and *in vitro* models such as the common marmoset, rodents, and macrophage model cells. (1) We investigated the effects of MeHg exposure on water homeostasis in the brain by examining the expression of aquaporins (AQPs) in a semi-acute model of MeHg exposure using the common marmoset. We found that MeHg activated the expression of AQP4 in the brain. (2) We examined the effects of metabolic changes related to type 2 diabetes mellitus (T2DM) on MeHg toxicity using KKAy diabetic mice. We found that body fat gain in T2DM may be one of the determining factors of MeHg distribution. (3) We studied the protective effect of selenomethionine using newborn rat as a model of fetal Minamata disease; we found that selenomethionine suppressed MeHg neurotoxicity. (4) We investigated the inflammatory responses of U937 macrophages to non-cytotoxic concentrations of MeHg, and the suppressive effect of *N*-acetyl-L-cysteine. MeHg exposure induced the expression of interleukin (IL) 6 and IL-8, and this activation was suppressed by treatment with *N*-acetyl-L-cysteine. Selenomethionine and *N*-acetyl-L-cysteine have been used as nutritional supplements; our findings indicate the possible usefulness of these compounds in preventing the adverse health effects of MeHg exposure.

Keywords: *Methylmercury, neurotoxicity, glia, macrophage, selenomethionine, N-acetyl-L-cysteine*

Microbial symbionts of marine invertebrates as an environmentally friendly source of marine natural products

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Indonesia is the global epicenter of marine biodiversity and is one of the mega diverse countries that harbor the majority of the Earth's species. Indonesia is well-known for housing unique and diverse marine invertebrates. Natural products from marine invertebrates greatly expand the chemical diversity available for biotechnological exploitation.

One of the most serious bottlenecks in developing natural products from marine sources during the past decades has been the availability of biomass and/or of optimised cultivation conditions to gain sufficient amounts of compound for preclinical and clinical studies.
Marine invertebrates are sources of a diverse array of bioactive metabolites with great potential for development as drugs and their associated microorganism communities occupy a unique niche in the ocean's biota.

Since marine diversity also reflects chemical diversity, the isolation of the under-exploited symbiotic microorganisms from Indonesian marine invertebrates offers a great opportunity for discovering novel bioactive compounds based on screening against various disease targets with significant impact and strong potential for treatment of diseases.

The exploitation of symbiotic microorganisms as a source for novel secondary metabolites is considered to be in its infancy; however, the discovery rate of novel active metabolites from marine microbial symbionts could surpass that of their terrestrial counterparts.

Keywords: *Marine invertebrates, microbial symbionts, marine natural products*

Nutritional support to mitigate malnutrition in patients and reduce hospitalisation costs

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Disease-related malnutrition is a major problem throughout the world. In many countries up to 50% of patients in hospitals are at risk of malnutrition. Malnutrition is known to be associated with high rates of mortality and morbidity, including infectious complications, pressure ulcers and falls, resulting in longer hospital stays, increased readmissions and thus greatly increased costs. This association is assumed to be causal, but good quality randomised controlled trials are needed to determine the extent to which improving nutritional status can improve outcomes for patients. This presentation will consider the following issues:

1. Which patients are likely to benefit from nutritional support? Nutritional screening is important, but different nutrition screening tools use different criteria and identify different patients as being at risk of malnutrition.
2. What forms of nutritional support are effective? Enteral and parenteral nutrition are efficacious but are not appropriate for most patients; oral nutritional supplements and other forms of dietetic intervention can also be highly effective.
3. What outcomes can be improved by nutritional support? Nutritional support can improve nutritional outcomes such as nutrient intake and body weight, but may have less effect on functional outcomes such as muscle strength and respiratory function or clinical outcomes such as length of stay, complication rates and mortality. It is also very important to consider patient-centred outcomes such as quality of life and activities of daily living.
4. Is nutritional support cost-effective? This question can be tackled by carrying out cost-utility analysis.

Encapsulation Technologies to Improve the Functional of Food Ingredients

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Polyphenols have a unique function for antioxidation and are used as potential chemical prophylaxis and anticancer agent for humans. However, the concentration of polyphenols which appear effective in vitro are often one order of magnitude lower than that required to elicit response in vivo, thus indicating low bioavailability. In this study, we turn our attention to genistein, which is one of isoflavones found in a number of plants including soybean. Genistein is belong to polyphenols classified in class II (poor soluble/permeable) in the BCS. Then this study was explored to improve genistein solubility by using phospholipid vesicle and amino acid-type surfactants. Therefore, I would like to explain the physicochemical properties of phospholipids, amino acid surfactants, and the interaction between them as well as the encapsulation of genistein in order to improve its aqueous solubility.

Linear programming to develop dietary guidelines and food-based intervention to improve nutrition and health outcome

Fahmida U

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Linear programming (LP) approach provides robust method for developing and evaluating population specific food based dietary guideline (FBDG). It is also useful to assist in designing food and nutrient intervention. We presented findings from intervention studies where optimized complementary feeding recommendation (CFR) developed using LP were used to improve nutrition and health outcome.

An intervention using optimized CFR in Lombok Indonesia showed that children whose mothers received nutrition education with optimized CFRs had higher nutrient intakes and nutrient densities in their CF diet. An intervention study on stunted under-two children in Dompu Indonesia showed that optimized CFR without fortified food was instead more beneficial to linear growth than higher nutrient density CF diet which included fortified food. In an intervention trial in Myanmar, optimized CFR can minimize the negative effect of iron supplementation on zinc status and gut microbiota.

LP can also be used to assist program decision such as the need and optimal frequency of multi micronutrient powder (MNP).The finding from Indonesia (SMILING study) suggested that with optimized CFR which include available fortified foods, 1-2 times/weekly MNP was sufficient for infants; whereas for 12-23mo children the nutrient requirement can be met with no MNP if they consumed the optimized CFR+fortified foods.

The findings suggest the benefit of promoting optimized CFR and further study is needed to provide more evidence of its effectiveness at the public health level.

Decoding the double burden paradox: nutrition transition in malaysia

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Introduction: Epidemiologic transition in the last century has paved the way for nutrition transition across the globe, and Southeast Asia is not excluded. What is unique about Malaysia, was that it did not follow all the stages of demographic transition as industrialized countries underwent.

Method: This paper will review development from the early part of the twentieth century the major nutritional problems faced by most countries in the world and Malaysia up to the present.

Results: Early studies have reported that prevalence of vitamin deficiency diseases such as beriberi, scurvy, and rickets were common in many parts of the world, and in Southeast Asia they were quite rampant. Scientific advancement which leads to the discovery, isolation and synthesis of the various vitamins virtually eliminated the vitamin deficiency diseases in a very short period. Rapid economic growth has pushed Malaysia into the middle income group, a nutrition transition where lifestyle changes and consumption habits began to be influenced by outside forces and globalization. Parallel development in the form of increased prevalence of non communicable diseases and obesity have dominated the health scene in the country. As a result, a new phenomenon has emerged, that is, the double burden of malnutrition. Where, a section of the population is facing the problem of malnutrition due to lack of food or micronutrients, and at the same time witnessing the increase in incidence of overweight and obesity which lead to increase risks of non communicable diseases. The implementation of Sustainable Development Goals (SDGs) is supposed to tackle these emerging global problems by 2030, but to date they have not been making any significant impact.

Conclusion: One of the solution to overcome the double burden problem suggested by this paper is the school feeding program.

Keywords: *Malnutrition, double burden, obesity, nutrition transition, non communicable disease*

The interaction between platelets and host defense

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Platelets are traditionally known for their role in primary hemostasis, a process in which platelet plugs seal off an injury to a blood vessel to prevent further bleeding. Platelets also play a fundamental role in progression of atherosclerosis and acute cardiovascular events. Beyond these apparent functions in hemostasis and thrombosis, it is increasingly recognized that platelets are key cells in immunity and inflammation. Platelets can interact with different immune cells and alter their phenotype. Platelets can also release antimicrobial peptides and trigger the formation of neutrophil extracellular traps, highlighting their involvement in the innate host response against infectious diseases. Infection/inflammation and hemostasis are thus two processes which interact with each other, and platelets play a crucial role in this bidirectional interaction. Severe infections and the related changes in inflammation may have differential effects on platelets. High platelet numbers are commonly seen in infectious diseases such as tuberculosis, whereas low platelet counts are a feature of viral infections, such as dengue. The changes in platelet numbers and function may not only be a result of inflammation, but also be a direct or indirect effect of the micro-organisms itself. The presentation will focuses on how infection and inflammation alter platelet numbers and function, and whether and how these platelet changes alter the innate immune response against these infections.

Leptospirosis: diagnostic pitfalls and role of biomarkers in disease severity

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Leptospirosis, an endemic zoonosis in Indonesia, is one of the causes of acute fever in human Outbreaks with mortality more than 10% have been reported recently in 2017 in Central Java and Yogyakarta Provinces. The incidence Leptospirosis in Indonesia is not known, but it is estimated that the burden of Leptospirosis in South-East Asian countries is 55 per 100.000 populations per-year. Diagnosis accuracy for Leptospirosis is important not only for patient management but also for disease surveillance and research. Clinically, it is not possible to clearly differentiate Leptospirosis from other acute febrile infectious diseases since the clinical manifestation is greatly variable and may mimic other infectious diseases. The majority of disease presentation is non-specific i.e. mild nonicteric leptospirosis that can be misdiagnosed or under-diagnosed as other bacterial or viral infections. Clinicians do not recognize the disease due to disease unawareness or unavailability of diagnostic tests. Existing clinical guidelines for leptospirosis have been developed since decades, but no one sensitive nor specific. The WHO SEARO (2009) proposed case definition, which is now adopted in Indonesian guideline.

Not like other bacterial infections, blood culture of *Leptospira sp* has low sensitivity and need longer time to get the result, therefore is not suggested for microbiological diagnosis. A very laborious serological test, the Microscopic Agglutination Test (MAT), the gold-standard diagnosis which detects serovar-specific antibodies has moderate sensitivity in the first week of illness but highly specific, and need a second test with interval at least one week. Serological assays for detecting immunoglobulin M (IgM) antibodies has variable diagnostic values. Several studies reported that IgM ELISA have low to moderate performance in endemic areas. Based on a reported cohort study in Netherlands, the in-house ELISA has higher sensitivity in early days of illness but high specificity later, therefore it was proposed as the alternative gold standard.

The rapid diagnostic tests (RDTs) based on immunochromatographic lateral-flow or latex agglutination (Dri-Dot) methods, are affordable and easy to perform as point-of-care test for standard of care of patients with febrile illness at all health-care settings. Commercial availability RDTs have low sensitivity in early days of illness with variable diagnostic values, depend on the quality of manufacturer`s products.

Molecular diagnosis using RT-PCR with target lipL32 or SecY genes had a good sensitivity at early stage but the sensitivity decrease when applied at days of onset more than a week, with specificity more than 95%. In Indonesia, RT-PCR techniques are more feasible than MAT but still not cost effective for patient`s service. MAT-negative cases can be positive by RT-PCR, informing that tested negative to MAT may not rule out leptospirosis. This phenomenon can be caused by different sensitivity between RT-PCR and MAT at early disease, but may be due to unavailability of new (local) strains beyond the panel used in the reference laboratory.

Despite the availability of diagnostic tests, misdiagnosis or under-diagnosis of Leptospirosis may exist if the clinicians do not include the disease in the differential diagnosis of acute febrile illnesses in Indonesia. Severe complicated leptospirosis that can be easily recognized by clinicians, is one of the leading causes of hospitalization with high mortality among adult in many part of the world especially in endemic areas. Clinical features of mild cases are not good predictors for progression to severe illness. Several biomarkers have been evaluated as potential predictors for disease severity, but mostly not yet validated and applicable in clinical management of leptospirosis patients.

Keywords: *Leptospirosis, diagnosis accuracy, serological and molecular tests, misdiagnosis, unrecognized disease, biomarkers of severe illness.*

Contribution of Education Institution to Solve Problems of Infectious Diseases in Community

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To solve problems of infectious diseases in the community demands a basic understanding of the epidemiology of infectious diseases; risk factors that increase the susceptibility to infection; the practices, procedures, treatments, and prevention. It is increasingly recognized that a sufficiently sized and well-trained health workforce is key to improving health outcomes in the community including infectious diseases.

To meet these needs, health institutions should train the students with curricula that are community, competency and team-based. A common strategy used to improve the quality of education and increase graduate retention is community-based education (CBE), in which a lot number of studies generally report positive experiences for students and communities.

Most infectious diseases in the community should be solved collaboratively. Interprofessional Education (IPE) has also been reported as a valuable method of learning experiences to increase the collaboration and communication of health profession.

Thus, CBE that combines with IPE is needed to be implemented in the school of health profession. However, implementing the CBE-IPE program in the community, is challenging and need appropriatelly preparation before it's implementation.

The etiology of community acquired pneumonia : Does geographical variation matter ?

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Community-acquired Pneumonia (CAP) is one of life threatening diseases in children and adults. Studies in developed countries consistently revealed *Streptococcus pneumoniae* as the most important etiology of CAP. In developing countries, many studies showed that Gram-negative bacilli (GNB), in particular *Klebsiella pneumoniae,* are important causes of pneumonia with much higher incidence than in developed countries. Questions arise whether this higher incidence of GNB reflect the real condition, which will affect antibiotic choices, or merely a diagnostic bias problems resulted from isolating colonization rather than infection. Lack of rigorous microbiological standards, for example specimen collection following antibiotic use, delays in specimen transport, or culture of specimens with inadequate microscopic screening for white blood cells, might reduce the isolation of more fastidious bacteria such as *S. pneumoniae* and *H. influenzae* and increase isolation of Enterobacteriaceae and *S. aureus.* In other hand, the higher rate of nasoharyngeal carriage of GNB in Southeast Asia might account for higher rates of Gram-negative CAP, although this could also cause more Gram-negative contamination of sputum samples. Careful microbiology sampling and testing are important in ensuring the role of GNB in sputum as the causative agent of pneumonia. Studies on the pattern of antimicrobial susceptibility and GNB clonality may help doctors discriminate GNB as a cause or contaminant in respiratory sampling of CAP patients in developing countries.

The evolution of holism in nursing

Jennieffer Barr

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Holistic nursing care has been the mantra for nursing for the past 40 years. Fundamentally, nurses are required to practice person-centred care that encapsulates all needs of the individual. From bio-psycho-social models to increased focus on spirituality the notion of holism has evolved over time. The catch cry that nurses are care givers developing therapeutic relationships has been extended from the individual patient to include family and significant others. More recently, a close examination of the role of nurses and how they provide holistic care in an inter-disciplinary health team has led to an awareness that holistic care has now been incorporated at an organisation level. This presentation will highlight the evolution of holistic nursing care providing examples of contemporary nursing practices demonstrating how holistic care is being applied beyond the direct care provided for the individual patient.

Self-care model in chronic illness

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The recovery process of chronic disease requires the ability of patients to care for themselves. Therefore, it is expected that the patients understand about the disease and know the activity they should do by themselves. They should also be able to monitor the effects of disease and treatment. Some factors which can affect self-care compliance, among others, are self-efficacy, social support, anxiety, perceived benefit, and physical ability.

Each disease has different impacts on everyone based on the individual experience. A self-care analysis model is appropriate for use in chronic disease.
The abilities that the patients should have are the skills needed to deal with illnesses, to continue normal lives, and to deal with emotions.

These abilities can be achieved through a supporting educational program of self-care management support which has been developed for 20 years, i.e., the Stanford Course, Flinders, A5 Program, Motivational Interview, and Health Coaching.

Various studies have shown that self-care can make the patients able to care for themselves physically, such as foot-self care, which reduces wounds in diabetic patients. Also, self-care for fatigue, including sleep management, relaxation, use of complementary therapy, work, and social activities could improve psychological well-being and social supports.

Keywords: *Self care, Suportif educative, chronic illness*

Cultural approach in holistic nursing

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The landscape of health care service is continuing to change in line with the advancement of health science and technology. The development of sophisticated medical technologies have led to better diagnosis and provided many benefits to guide accurate treatment and care. On the other hand, It has drawn the concentration of nurses on technical procedure of using the sophisticated machines rather than providing a comprehensive holistic care for patients. This situation contribute to the fragmentation of care which is more isolated on physical and mechanistic matters than psychological, social, spiritual, and cultural aspects. Holistic nursing is both philosophy and practice of nursing that focuses on healing the whole person. This view recognizes that a person is not simply as a physical aspect who suffer from disease. Holistic healing addresses the interconnectedness of the mind, body, spirit, social/cultural, emotions, and environment. All of these aspects combine to create the person as a whole which contribute to heal the person. The holistic nurse looks at all aspects and how they can affect the patient's health. Holistic nursing combines nursing knowledge, theory, intuition, and experience to guide for building a relationship with the patient to increase healing and promote health. Holistic nurse acknowledges the individual's subjective experience about health, including social cultural and spiritual perspectives related to health. Culture and health are strongly interrelated. Holistic healing can be achieved through integration of attention to all aspects of an individual—physical, mental, emotional, sexual, cultural, social, and spiritual. As society become more culturally diverse and unique, nurses should be qualified to deliver culturally appropriate care and sensitive skilled communication to culturally different individuals. Therefore, culturally competency nurses are needed when performing holistic nursing practice, in order to deliver a responsive and high quality nursing care..

Keywords: *Culture, Health, Holistic, Nursing*

The fragile X premutation from neurodevelopment to neurodegeneration

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The fragile X premutation is characterized by 55 to 200 CGG repeats in the Fragile X Mental Retardation Gene (*FMR1*) at Xq27.3. Mothers of children with fragile X syndrome (>200 CGG repeats=full mutation) are obligate carriers of at least the premutation, although they sometimes have the full mutation. Usually individuals with the premutation have normal intellectual abilities but not always and approximately 10 to 15% of boys with the premutation have ASD or ID. Seizures occur in approximately 10% of premutation carriers and their neurons die more readily in tissue culture media. Our research suggests that they are more vulnerable to environmental toxicity such as pollution, insecticides, pesticides, smoking and excessive drinking of alcohol. The premutation leads to significant oxidative stress, elevated intracellular calcium levels and mitochondrial dysfunction related to elevated levels of *FMR1* mRNA. There is also evidence that RAN translation occurs in carriers that leads to the production of FMRpolyG, a protein that is toxic to the neuron. The molecular dysfunction of the premutation leads to psychiatric problems including depression and anxiety in approximately 50%, hypertension, migraine headaches, cardiac arrhythmias, chronic pain syndromes such as fibromyalgia and neuropathic pain, and autoimmune disease such as arthritis, autoimmune thyroid disease, irritable bowel syndrome and rarely lupus or multiple sclerosis. Twenty percent of female carriers develop the fragile X-associated early ovarian insufficiency (FXPOI) meaning menopause before age 40. In approximately 40 % of male and 20% of female carriers the fragile X-associated tremor ataxia syndrome (FXTAS) occurs beginning typically in the 60s. This is characterized by an intention or action tremor and cerebellar ataxia, in addition to neuropathy, and cognitive decline. White matter disease is typically seen in the middle cerebellar peduncles (MCP sign) in 60% of males and 13% of females with FXTAS, although brain atrophy occurs in all with FXTAS. Executive function deficits and memory problems occur even before the onset of FXTAS and in the male carriers approximately 50% develop dementia. The diagnostic criteria and new treatment endeavors will be reviewed including treatment with allopregnanolone, a neurosteroid.

Molecular epidemiology of HPV-related cancers

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Introduction: Human papillomavirus (HPV), a widely-accepted risk factor of cervical cancer, is also suspected to play an important role in the development of oropharyngeal squamous-cell carcinoma. Recently, this virus has been investigated in several other types of carcinomas including cancers of the esophagus and the lung. However, its biological role in the pathogenesis of the lesions is less clear than that in cervical cancer.

Methods: To elucidate the role of HPV in carcinogenesis of non-genital cancers, we examined the presence, genotype, viral load, and physical status of HPV, among oral, esophageal, lung, breast, and penile cancers from Asian and Latin American countries.

Results: HPV genome was detected up to 60% of oral carcinoma. The most frequent genotype was HPV 16 in all sites of tumors. Although real-time PCR analysis suggested the presence of integrated-form of viral DNA in most of HPV-16-positive samples, the estimated viral load was significantly lower than that of cervical cancers, except tonsillar and penile carcinomas in which HPV-16-positive carcinomas showed a higher frequency of p16^{INK4A} expression than HPV-16-negative carcinomas.

Conclusion: Our findings support the etiological role of HPV-16 in the development of tonsillar and penile carcinomas, and p16^{INK4A} overexpression can be applied as a surrogate marker for the detection of high-risk-HPV.

Keywords: *human papillomavirus, type 16, viral load, p16^{INK4A} expression*

Fighting to Colorectal Cancer (CRC) Stem Cells

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ABSTRACT

To date, surgery, neoadjuvant radiotherapy and adjuvant chemotherapy have improved the outcome of colorectal cancer (CRC) patients; however, 50% of patients still die from recurrent or metastatic disease. The treatment of CRC patients with distant metastases or recurrence through surgery or chemotherapy currently remains limited. Treatment with CRC-based chemotherapeutic regimens principally includes 5 fluorouracil (5FU), oxaliplatin and/ or leucovorin or 5-FU, leucovorin and irinotecan (FOLFIRI). Drug failure occurs in 90% of metastatic cancers and it is attributed to chemoresistance of Colorectal Cancer Stem Cell. There are some mechanism of CSC chemoresistance: 1. Enhanced efflux of chemotherapy through ATP-binding cassette (ABC) transporters, 2. Enhanced ALDH (Aldehyde dehydrogenase) activity 3. Highly expressed prosurvival protein BCL-2, 4. Activate some signaling pathway (WNT/β –catenin, Notch, Sonic hedgehog/ SHH, NF-κ B) and 5. Activate DNA damage repair by activate two major signaling pathways ATM (Ataxia telangiectasia mutated) and ATR (ATM and Rad-3-related).

Alternative strategies for treating advanced CRC, including targeting to CSC Stem Cell should be explored. Up till now, only two medicine already been approved by FDA, bevazizumab as anti VEGF and cetuximab as anti EGFR, considered as targeting approaches against colorectal cancer stem cell. There are a lot of research to find medicine to fight Colorectal Cancer Stem Cell and most of them are targeting to the protein or receptor that already known as the cause of chemoresistance. Another reseachs are antibodies againt CRCS, nanotechnology and dendritic cell based immunotherapy. Omega 3 showed inhibit proliferation and angiogenesis, and exert a pro-apoptotic effect in several in vitro models of CRC and also down-regulated the expression of CRC stem-like cell marker CD133. Grape-seed extract reduced cell proliferation and induced apoptosis in CRC cells and decreased the expression of CD44. Our Phase II clinical trial showed that phylantus niruri extract increase significantly infiltrating lymphocyte and apoptosis of colorectal cancer. Further study should be concentrated on which subtype of lymphocyte to be activate and also whether increase apoptosis also on CRCSC. Above information should open our mind that herbal has potency to be medicine to fight CRCS.

Keywords: *Colorectal cancer stem cell, chemoresistance, bevazizumab, cetuximab, omega-3, grape-seed extract, phylantus niruri*

Molecular analysis of DSD genes toward its management, from research bench to clinical practice

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The majority of children born with DSD are identified in the newborn period due to visible genital differences; however, detection can occur later when expected features of pubertal development do not progress on time.

The broad diagnostic categories for DSD have remained the same in the past decade but several new specific molecular causes have been described. These include relatively rare new developmental DSD genes causes affecting gonad development, alterations in steroidogenesis and changes especially in ovary development (e.g. NR5A1, Kallman gene, DAX1, SOX9).

Our ability to reach a specific diagnosis can involve a range of different phenotypic clues followed by Biochemical/hormonal tests, imaging or interventions, and genetic analyses. Phenotypic clues may come from prenatal scanning, genital asymmetry, or its associated features. Early detection using chromosome analysis followed by FISH if necessary is essential for rapid sexual assignment, however now is being replaced in some centers by molecular analysis such as quantitative PCR and microarrays. It is not clear this development of new techniques will be quicker or if mosaicism will be detected.

Big changes in diagnosis in the past decade for DSD cases, reach an awareness of medical community to genital variation associated with different syndromes and help in the management of DSD. It is a challenge for middle income country such as Indonesia to keep up grading the skill and facilities of the laboratory.

Keywords: *management, DSD, molecular analysis*

Multi-facetted regulation of androgen activity

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Testosterone (T) is an important factor in the process of spermatogenesis, in development of male sexual characteristics, but also as a precursor for the production of female hormones in the ovaries and a determinant of female sexual activity. Since T and its precursors are produced in the testes, ovaries and adrenal glands, and conversion of precursors can take place in a number of peripheral tissues, peripheral and tissue levels of T depend on a large number of factors. Finally, the local conversion of T to 5α-dihydrotestosterone (DHT), which is an even more potent androgen, can play a role in the final effect of T in a specific tissue.

The production of T, like that of all hormonal steroids, depends on an intact complement of steroidogenic enzymes, ensuring the transport of cholesterol into the mitochondria in the cell and 5 subsequent conversions. The expression of these enzymes in testes and ovaries is stimulated by the pituitary hormone LH, which is secreted under the influence of LH-releasing hormone (LHRH). Mutations of LHRH, LH, their receptors or any of the steroidogenic enzymes inhibit T production. In contrast, adrenal production of T and its precursors is stimulated by ACTH.

Once synthesized, T is secreted into the blood, where it can be bound to sex-hormone binding globulin (SHBG). SHBG-bound T cannot enter the cell to exert its biological effects, making it important to know SHBG levels to interpret androgenic activity of the circulating T. Furthermore, single nucleotide polymorphisms in SHBG affect its affinity for T binding. Local conversion of T to DHT, for instance in the prostate, but also in the foetal anlage of the penis, is important to enhance androgen activity in these specific organs. Absence of the appropriate enzyme will lead to a disorder of sexual development, whereas overexpression can play a role in prostate cancer.

As a final point, the intactness of the androgen receptor, in combination with the intracellular concentration of T or DHT, is all-important in determining androgen action.

In conclusion, serum concentrations of T can only be linked to physiology if the intricacies of its production, binding and effects are taken into account.

Hormonal evaluation in patients with Disorder of Sex Development (DSD) in Indonesia

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Sex determination and differentiation is a complex process following a logical cascade. It starts from chromosomal sex determines the gonadal sex which is determine the phenotypic sex. All of these processes involve genes and hormones. A paradigm for sexual differentiation of the internal genitalia is determined by an expression of gene that lead bipotential gonads to become testis or ovary.

Testicular differentiation occurs after the onset of the expression of sex-determining region Y (SRY) in a subset of somatic cells. This leads to their differentiation into Sertoli cells, which in turn produce anti-Müllerian hormone (AMH). These cells are the supportive cell lineage surrounding the developing germ cells. AMH inhibits the differentiation of the Müllerian ducts into a uterus and other Müllerian structures. Furthermore, the developing Leydig cells start secreting testosterone, which causes the stabilization of the Wolffian ducts. In females, there is no obvious single dominant gene that determines the sex of somatic and germ cells in the ovary.

Two hundred and eighty nine patients with various forms and degrees of DSD were evaluated. They have been referred to the department of Human Genetics Center for Biomedical Research, Faculty of Medicine Diponegoro University (FMDU), Semarang Indonesia.

In all patients, a blood sample was obtained for karyotype, hormonal, and gene analysis. Karyotype was established using a G-banding technique. In patients with 46, XY DSD or Y containing chromosomal DSD, an additional blood sample was obtained 72 hours after the intramuscular injection of 1500 IU hCG (Pregnyl ®).

We conclude that serum determinations of 17-hydroxyprogesterone and androstenedione are the most predictive parameters in determining the underlying cause in 46,XX DSD patients as CAH was the most common diagnosis whereas LH, FSH, testosterone and AMH levels are the subsequent parameters to determine the gonadal function in the non- CAH patients. The examination of LH, FSH, and basal testosterone are the most important parameters to distinguish between groups of patients with 46,XY DSD, followed by AMH or inhibin B. The hCG test had limited value as in this large cohort of patients. Regarding sex chromosome DSD, karyotyping is the most important examination to establish aneuploidy. Hormonal data are largely depending on the degree of gonadal differentiation. Measurement of AMH and inhibin B at a pre-pubertal age and additionally post-pubertal FSH are most indicative for the quality of gonadal function.

Early intervention and targeted treatment in children with Fragile X syndrome: Where have we been so far?

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ABSTRACT

Fragile X syndrome (FXS) is the most common inherited cause of intellectual disability (ID) which affects males and females with a wide range of intellectual ability and may experience various degrees of emotional, behavioural, sensory, learning, and social difficulties. Affected individuals carry full mutation allele of *FMR1* gene mostly result switch of the gene will reduce or stop protein production, called fragile X mental retardation protein (FMRP). FMRP, an RNA binding protein that regulates a hundred of synaptic protein translation, the lack of FMRP leads to excess protein production of excitatory neurotransmitter. Thus will disrupt synaptic dysfunction and leading to cognitive and behavioural difficulties. In order to overcome the problems, 27 clinical trials have been completed through www.ClinicalTrials.gov based on pathophysiology of FXS called targeted treatments have been done in many research centers worldwide. On the other hand, Indonesia has only one FXS research center which is struggling to catch up an enormous progress especially in FXS treatment. Although a lot of things have been done to facilitate FXS patients, so far, clinical and molecular diagnosis services was offered by Center for Biomedical Research (CEBIOR) beside high risk population screening based on an availability of research funding. Some obstacles in carrying out of clinical trial are research funding, representative laboratory for diagnosis and follow up, and objective outcome measurement tools. Government regulation (UU No: 8 Tahun 2016) has been issued last year to regulate the rights of individual with disabilities but derivate rules need to be made especially to encourage individual and family with FXS.

Keywords: *fragile X syndrome, clinical trial, Indonesia*

Malignant brain tumor and the treatment

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In order to treat malignant brain tumors, CCNU was developed in the 1970s, and in 1977, ACNU was made and has been used in Japan. The chemotherapy around this era, myelosuppression and gastrointestinal toxicity were major problems, and advent of G-CSF against granulocytopenia and 5-HT3 receptor antagonist as antiemetic agent was good news. The impressive paper of temozolomide (TMZ) was reported in 2005, and the TMZ became available for glioblastoma in Japanese health insurance in 2006. According to changes of environment concerning treatment, survival time of glioblastoma patients has been improved gradually. TMZ and concomitant radiotherapy for newly diagnosed glioblastoma is considered as standard therapy recently, and the drug resistance by expression of MGMT (O^6-methylguanine DNA methyltransferase) has been well known. However the mechanism of resistance against TMZ is not limited only by MGMT expression. We present our study about mismatch repair (MMR) components in the TMZ treatment. In the previously known MMR proteins, four MMR components (MLH1, MSH2, MSH6, and PMS2) were reportedly suggested to have relationship in glioblastoma recurrence. To clarify which MMR components are most important in influencing the acquisition of TMZ resistance, we established TMZ-resistant cell lines that do not express MGMT from U251 human GBM cells and analyzed their TMZ resistance. In the study we found a reduction in MLH1 expression and a subsequent reduction in PMS2 protein levels in TMZ-resistant cells. From 2013, we began using anti-VEGF antibody, bevacizumab for glioblastoma treatment in Japan. Because of the result of two prospective studies about bevacizumab, AVAglio and RTOG 0825, it is considered that bevacizumab has no benefit to the overall survival for newly diagnosed glioblastoma. Over 3 years has past, our glioblastoma patients show prolonged survival time in our institute. We present the effect of bevacizumab and discuss favorable clinical benefit by bevacizumab. Additionally, we exhibit recent glioma surgery with various modalities, including neuro-navigator, white matter fiber stimulation, 5-ALA fluorescence observation, and intraoperative MRI in Kagoshima University Hospital. Finally, we would like to explain the possibility of chemotherapy about malignant meningioma. There has been no effective chemotherapeutic agents, and repetitive surgeries and irradiation are treatment procedure for malignant meningioma. We screened 11 candidate of chemotherapeutic agents for their possible antitumor activity in high-grade meningioma and discovered that high-grade meningioma cells show a preferential sensitivity to antimetabolites, in particular, to gemcitabine.

Malignant brain tumor is intractable disease, and our power and knowledge is still insufficient. We have to make effort in a step-by-step, so we expect perpetual translational activity between clinical field and research field as a neurosurgeon.

Well Organized Epilepsy Surgery Program in Semarang: Paving the way to start Multidiciplinary Translational Researches in the field of Epilepsy

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Background: Even with modern medication, 30 to 40% of epilepsy patients will be intractable and this condition leads to cognitive and psychosocial decline, resulting in worse quality of life and higher mortality. With 0.5-0.6% prevalence, there will be about 2.0 million epileptic in Indonesia, about 700.000 will be intractable, and 350.000 of them are potential candidates for epilepsy surgery (ES). The number of ES performed in both Dr. Kariadi Hospital and Telogorejo Hospital reaches to 40 to 50 cases per year for the past ten years. The results of ES performed in Semarang were excellent enough compared to those of the other centers abroad with minimal complication rates. Based on the steady number of ES performed, the possibility of starting a multidisciplinary translational research in the field of epilepsy should be discussed.

Materials: Until the end of December 2016, there were 536 ES performed. Among them, 470 of 536 or 87.7% were temporal lobe epilepsy cases and resective surgery named Anterior Temporal Lobectomy (ATL) or Selective Amygdalo-Hippocampectomy (SAH) were routinely performed. The resected materials, mainly the epileptic hippocampus, were examined using routine and simple neuropathological stainings. The diagnostic tools to decide the epileptic temporal lobe in TLE or the epileptogenic zone in other brain regions were mainly the seizure semiology, MRI with specific protocol, and either long term ictal EEG or Positron Emission Tomography (PET)-CT studies for those with visually normal MRI images.

Results: Clinical results based on the seizure elimination rates were once performed on 106 cases with follow-up time at least 60 months. The overall seizure free (Engel Class 1) rate were 70.75%. But if the patients were grouped according to the age when the ES were performed (less than or over 25 Y-old) , the seizure free rates were 75.4% and 66.04% respectively. Or if they were grouped according to the length of disease before surgery (less or more than 10 years), the results were 78.72% and 64.40% respectively. Patients were also grouped into types of pre-surgical evaluation (simple, difficult, and complex) and seizure free results were compared, showed as 78.7%, 73.4%, and 65.2% respectively.

Conclusion: There are so many biomolecular studies that might be performed on the resected hippocampus or anterior temporal lobe in relation to surgical results, or retrospectively in relation to the seizure frequency and seizure severity. The degree or severity of neuronal loss in the certain hippocampal regions might also studied in correlation to the EEG abnormality in the interictal phase, and the seizure free results. Besides age at surgery or length of epilepsy before the surgery, there are so many other factors such as seizure frequency, and the presence of secondary generalization, and so many neuropsychological datas that might be studied in correlation with surgical results.

Intraoperative Electro Cortico Graphy (ECog): recent updates

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Introduction: Intraoperative electrocortigraphy (ECoG) has been used as a complementary method in the surgical management of medically refractory partial epilepsies to identify the location and limits of the epileptic region at the time of the resection.

Methods: This summary will describe technical aspects as well as advantages as limits in interpretation of intraoperative ECoG techniques for the surgical treatment of medically intractable epilepsy of various underlying aetiologies. Case series were presented.

Results: General intraoperative ECoG techniques were described, including effects of anaesthetic agents on intraoperative ECoG signals. Use of intraoperative ECoG in temporal lobe epilepsy with mesial temporal sclerosis (MTS) is generally considered not necessary, whereas intraoperative EcoG in temporal lobe epilepsy without mesial temporal sclerosis may provide useful information. Intraoperative ECoG in extra-temporal epilepsy with structural lesions may facilitate resection, whereas the use of intraoperative ECoG in extra-temporal epilepsy without a structural lesion is more controversial.

Conclusions: Intraoperative ECoG is a useful technique to be employed in surgical treatment of medically intractable epilepsy. Although the method has been used for several decades one must bear in mind that ECoG cannot be used to predict the outcome of surgery.

Keywords: *electrocorticography (ECoG), intraoperative, temporal lobe epilepsy, extra-temporal epilepsy, medically intractable epilepsy*

Phospholipase A2 an Emerging CAD Risk Factors In The Horizon: *Any genetic polymorphisms take a role in CVD*

Anwar Santoso

Development of atherosclerotic vascular disease (cardiovascular diseases) is invariably linked to the formation of bioactive lipid mediators and accompanying vascular inflammation. Phospholipase A2 is an enzyme that is produced by inflammatory cells, co-travels with circulating low-density lipoprotein (LDL), and hydrolyzes oxidized phospholipids in LDL. Circulating levels and enzymatic activity of two-families of phospholipase A2 (PLA A2) enzymes, namely: secretory phospholipase A2 (sPLA2) and lipoprotein-associated phospholipase A2 (Lp-PLA2) had been evaluated as biomarkers of cardiovascular diseases in population-based studies. Its biological role had been controversial with initial reports purporting atheroprotective effects of Lp-PLA$_2$ thought to be a consequence of degrading platelet-activating factor and removing polar phospholipids in modified LDL. Recent studies, however, focused on pro-inflammatory role of Lp-PLA$_2$ mediated by products of the Lp-PLA$_2$ reaction (lysophosphatidyl-choline and oxidized nonesterified fatty acids). These bioactive lipid mediators, which are generated in lesion-prone vasculature and to a lesser extent in the circulation (eg, in electronegative LDL), are known to elicit several inflammatory responses. The proinflammatory action of Lp-PLA$_2$ is also supported by a number of epidemiology studies suggesting that the circulating level of the enzyme is an independent predictor of cardiovascular events. Our previous study had suggested that sPLA2 might be associated with the odds of acute coronary syndromes (ACS) through activation of inflammation, represented by elevated serum-amyloid A protein in patients with ACS compared with sex-matched controls. Phospholipase A$_2$ produces fatty acids and lysophospholipids. However, up to now it is still unclear whether PLA$_2$ is a predictor of coronary artery disease (CAD). Consequently, we would have proved the associations between polymorphisms of PLA2G7 gene, encoding LpPLA2 enzyme and PLA2G2A which encoding sPLA2 enzyme and their gene expressions with vulnerable plaque in stable CAD. Then, we studied 133 Indonesian underwent CT angiography for CAD and vulnerable plaque using Napkin ring sign (NRS), SNP genotyping TaqMan assays and gene expression assays for mRNA levels, and ELISA for protein levels. This case-control study recruited cases of 21 stable CAD with vulnerable plaque (positive NRS) and 59 stable CAD subjects with stable plaque as controls. The allele frequency of carrier mutant of PLA2G7 (rs 75863441) was 7.5%, and PLA2G2A (rs 4744 and rs 955587) were 12.5% and 27.5%. There was an association between gene expression of PLA2G2A (mRNA levels) with vulnerable plaque with OR of 1.4 (95% CI: 1.0 – 2.0; *P* = 0.06). sPLA2 might be associated with acute coronary syndromes through activated inflammation and gene expression of PLA2G2A associated with vulnerable plaque in stable coronary artery disease.

Cardiac Remodeling in Diabetic Heart Disease:
Learning from translational studies on Endothelin system

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Diabetes has been known as major risk factor for coronary artery disease (CAD). The presence of long-term hyperglycemia leads to endothelial dysfunction and accelerates atherosclerosis progression. CAD patients with diabetes are more common to have severe coronary lesion, thus prone to have LV systolic dysfunction following episode of acute coronary syndromes. In contrary, diabetes itself may affect cardiac structure and function independent to atherosclerosis and hypertension. This most forgotten clinical spectrum is called "diabetic cardiomyopathy". The presence of this unique clinical entity has been in debate for decades. However, bulging of evidences from current imaging studies show the importance of this pathology in the increased risk of heart failure and cardiovascular events. Pathophysiology of diabetic cardiomyopathy is multifactorial in nature, with at least four pathways currently in the center of investigation; (1) Oxidative stress-driven *glucotoxicity*; (2) Increased of mitochondrial uncoupling; (3) Diffuse myocardial fibrosis and extracellular matrix accumulation; and (4) Myocardial *lipotoxicity*. This review will focus on the last two mechanism. Preclinical studies have shown the involvement of endothelin-1 (ET-1) in development of myocardial fibrosis and *lipotoxicity*. We have reported accumulation of fibroblast in the fibrotic area of diabetic animal model, which derived from endothelial cells origin through mechanism of endothelial-to-mesenchymal transition. This phenomenon was initiated by upregulation of ET-1 mainly from endothelial cells that further activated TGFß – Akt – Nail signaling pathway. The presence of diffuse fibrosis leads to LV systolic function in diabetes animal model. In the clinical setting, using cardiac magnetic resonance (CMR) imaging we also observed similar diffuse (non-necrotic) myocardial fibrosis in human diabetic patients without CAD, which correlates to the increased of plasma ET-1 level. Interestingly, plasma ET-1 level is associated with severity of diastolic dysfunction examined by *tissue dopler* echocardiography, linear to the presence of fibrosis. Another finding revealed the importance of myocardial lipid accumulation, so-called 'myocardial steatosis', driven by non-esterified fatty acid (NEFA) metabolism abnormality in diabetic animal model, and the evidence is also presence in human diabetic heart as shown by increased of triglyceride content in myocardium from ^{1}H MR spectroscopy study. The combination of myocardial fibrosis and steatosis is associated with cardiac remodeling and stiffness, later become diastolic dysfunction which is important predictors for developing heart failure (HF) in this population. In early phase, LV remodeling and HF with preserved Ejection Fraction (HFpEF) occurred, followed by gradual decrease in ejection fraction, leading to advanced HF in the end. In summary, diabetic cardiomyopathy is not a fiction. This unique clinical entity does presence in diabetes human heart, and an advanced human cardiac imaging studies confirming pre-clinical data and shows the importance of myocardial fibrosis and steatosis in the pathophysiology of this disease.

Diagnostic tool, pathogenesis, and pharmacological intervention in hypertrophic cardiomyopathy caused by a mutant cardiac myosin-binding protein *C*

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Purposes: To analyze the sensitivity and specificity of denaturing HPLC as a genetic diagnostic tool and to find gene variants of cardiac myosin-binding protein C (*MYBPC3*) in patients with hypertrophic cardiomyopathy (HCM); to investigate whether *MYBPC3* gene mutation leads to UPS impairment and apoptosis, leading to electrophysiological dysfunction, and is associated with cardiac dysfunction; and to identify pharmacological agents those ameliorate apoptosis in cardiomyocytes expressing mutant cMyBPC.

Methods: A mutation analysis of *MYBPC3* gene was done using DHPLC and direct sequencing. Heterologous expression was investigated in vitro using COS-7 cells, neonatal rat cardiac myocytes, or HL-1 cells. Gene expressions, cellular and electrophysiological analyses were performed. The cardiac function was measured using echocardiography.

Results: Compared to direct sequencing, the sensitivity and specificity of DHPLC were 87.5 % and 97.42 %, respectively. Five novel *MYBPC3* mutations–E344K, ΔK814, Δ2864-2865GC, Q998E, and T1046M–were identified. Compared with the wild type and other mutations, the E334K protein level was significantly lower; it was instable, degraded faster, showed higher polyubiquination. The E334K protein suppressed cellular proteasome activities, increased the proapoptotic/antiapoptotic protein ratio, and enhanced apoptosis. Patients carrying the E334K mutation presented significant left ventricular dysfunction and dilation. The protein levels of $K_v1.5$, $Na_v1.5$, Hcn4, $Ca_v3.2$, $Ca_v1.2$, Serca, RyR2, and Ncx1 were increased in cells expressing E334K protein. Cells expressing E334K cMyBPC exhibited higher Ca^{2+} transients and longer action potential duration (APD), accompanied by afterdepolarizations. Simultaneous administration of azelnidipine (0.1 μM) and olmesartan (0.3 μM) or that of amlodipine (0.1 μM) and valsartan (0.3 μM) reduced the number of apoptotic cardiomyocytes by about 32–36% and 18%, respectively.

Conclusions: DHPLC has high sensitivity and specificity for detecting *MYBPC3* gene mutations, and it could be used as a genetic diagnostic tool in patients with HCM. The E334K *MYBPC3* destabilizes its protein and may contribute to cardiac dysfunction in HCM through UPS impairment. The UPS impairment modifies the levels of channel proteins leading to electrophysiological dysfunction. Combination of azelnidipine plus olmesartan or that of amlodipine plus valsartan ameliorates apoptosis in the cellular model of HCM.

Keywords: *hypertrophic cardiomyopathy, cardiac myosin-binding protein c, diagnostic tool, pathogenesis, pharmacological intervention*

Natural killer T cells play a cardioprotective role against left ventricular remodeling and failure after myocardial infarction in mice

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Objective: Natural killer T (NKT) cells play an important role in tissue inflammation by modifying tissue inflammation. The activation of NKT cells by α-galactosylceramide has been shown to ameliorate left ventricular (LV) remodeling and failure after myocardial infarction (MI), which was mediated by the enhanced expression of interleukin-10. We thus hypothesized that the disruption of NKT cell receptor gene could exacerbate this deleterious process.

Method: MI was created in male C57BL/6J wild-type (WT) and NKT cell receptor knockout (KO) mice by ligating left coronary artery and sham operation was also performed. Four groups of mice, WT+sham (n=10), KO+sham (n=8), WT+MI (n=36), and KO+MI (n=42), were followed for 28 days. Echocardiography and hemodynamic measurements were performed. RT-PCR was performed to quantify mRNA expression in non-infarcted LV tissues.

Results: Survival rate during 28 days of MI was comparable between WT+MI and KO+MI. LV end-diastolic dimension was greater (5.4 ± 0.04 vs 5.7 ± 0.1 mm, $p<0.05$), and LV fractional shortening was smaller (16.5 ± 0.4 vs 13.6 ± 0.3 %, $p<0.05$) in KO+MI than WT+MI, with no significant changes in infarct size. LV end-diastolic pressure was higher (9.8 ± 1.0 vs 12.6 ± 0.9 mmHg, $p<0.05$) in KO+MI than WT+MI. Tumor necrosis factor-α mRNA expression was significantly decreased, and interestingly interleukin-10 mRNA expression was completely abolished in non-infarcted LV in KO+MI compared to WT+MI. There were no significant changes in MCP-1 and F4/80 mRNA expression between WT+MI and KO+MI.

Conclusions: The disruption of NKT cell receptor gene exacerbated LV remodeling and failure after MI in association with the decreased expression of cardioprotective cytokine, interleukin-10.

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3D QSAR Studies of 2-Arylpyrimidines and S-Triazines as Selective PDE4B Inhibitors

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ABSTRACT

Introduction: Phosphodiesterase 4B (PDE4B) has emerged as important target for design of anti-inflammatory drugs for respiratory tract. Several selective PDE4B inhibitors are under various stages of development, among them 2-arylpyrimidines and s-triazines have been identified as inhibitors with high degree of selectivity for PDE4B. However, the structural features responsible for the PDE4B selectivity of these molecules have not been identified and explored so far.

Method: 3D QSAR studies were performed for the series of 2-arylpyrimidines and s-triazines using Accelrys Discovery Studio 3.5. The IC_{50} values were transformed to PDE4B selectivity by taking the ratio of IC_{50} values i.e. $PDE4D(IC_{50})/PDE4B(IC_{50})$ for all the molecules in the series, and used as the dependent variable. The dataset was divided into training and test set of 45 and 10 compounds respectively and 3D QSAR was performed using the default parameters. Test set prediction and Fischer statistic was used for validation of the developed model.

Results: Statistically robust and predictive 3D QSAR models with high r^2_{cv} value of 0.9794 were obtained. The contour maps revealed the sterically and electronically favourable and unfavourable regions around the 2-arylpyrimidines and s-triazines scaffolds.

Conclusion: 3D QSAR model for 2-arylpyrimidines and s-triazines as selective PDE4B inhibitors were developed and validated. The models were highly predictive and provided vital structural information for the design of newer and more selective PDE4B inhibitors having the 2-arylpyrimidine and s-triazines scaffold. The results of the present study will be followed up by the design, synthesis and experimental evaluation of newer selective PDE4B inhibitors.

Keywords: *Cyclic Nucleotide Phosphodiesterases, Type 4B; 3D Quantitative Structure-Activity Relationship; Fischer statistic; 2-arylpyrimidines; s-triazines*

DD 1-02

The effectiveness of *Merremia mammosa (Lour.)* extract fractions as diabetic wound healers on diabetic rat model

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ABSTRACT

Introduction: Prevalence of diabetic ulcers in Indonesia ranges from 17.3 to 32.9% of hospitalized diabetes patients. Approximately 14-24% of them cannot be healed and require amputation. Treatment of diabetic ulcers is quite difficult, because of the failure of blood vessels and bacterial infection. *Merremia mammosa (Mm) (Lour.)* that contains flavonoids are thought to have potential antioxidant that helps the wound healing process. This study aimed to determine the effect of *Mm(Lour.)* extract fractions in wound healing process of diabetic rat model and searching the most potent fraction in 25 mg effective dose. The dose was proven effective in other plant fraction and smaller dose in our preliminary study was ineffective.

Method: This experimental study used twenty-five male Wistar rats that were made diabetic by intraperitoneal injection of 40 mg/kg body weight streptozotocin. Rats divided into five groups, which consist of positive control (gentamicin 0.1%), negative control (aquadest) and *Mm(Lour.)* dose 25 mg each of n-hexane, ethyl acetate and water fraction. Wound was made by Morton method and treatment applied on the wound every other day for 10 days. Wound healing process were observed by calculating the percentage of reduction in wound size. Data were described and analyzed further using appropriate statistic tools.

Results: The percentage of reduction in wound size comparison at day 11 of the incision showed significant different in every fraction when compared with negative control and no significant different when compared with positive control. This study showed that among the three factions, water fraction showed the fastest healing rate (93.4 %).

Conclusion: *Mm (Lour.)* extract fractions significantly accelerated the process of wound healing in diabetic rat model and the most effective fraction was water fraction. Therefore, it is potential to be developed further as a topical drug.

Keywords: *Merremia mammosa (Lour), wound healing, diabetic ulcers*

DD 1-03

The effect of Cinnamomum burmanii and Lagerstroemia speciosa combination (DLBS3233) on superoxide dismutase (SOD) activity in type 2 DM patients

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ABSTRACT

Introduction: Chronic hyperglycemia in Diabetes Mellitus (DM) cause excess production of free radicals and low serum SOD activities. DLBS 3233 has potency to improve insulin resistance. The aim of this study is to evaluate the effect DLBS3233 on serum SOD activity in new onset type 2 DM patients.

Method: This study was double-blind RCT, 2 groups parallel, pre and posttest design. It was conducted in Pekajangan and Ambokembang village, Pekalongan district, Central Java. Study subjects were 70 new onset type 2 DM patients, randomly allocated into 2 groups: DLBS3233 (n=35) and placebo group (n=35). DLBS3233 group received oral 100 mg DLBS3233 once per day for 12 weeks. Placebo group received oral starch capsule with dose, capsule form and administration method similar to DLBS3233. Serum SOD activity were measured before treatment and at 12 weeks (after) treatment.

Results: Characteristic of DLBS group vs placebo: Age 50.5±6.90 vs 53.3±6.13 year (p=0.1); central obesity 26 (74.3%) vs 24 (68.6%) (p=0.8); BMI 27.85±5.27 vs 26.62±5.03 (p=0.3) respectively. Before treatment serum SOD activity on DLBS group was 4.4 ± 1.99 and placebo group was 4.2 ± 1.82 μg/mL (p=0.7). After treatment SOD activity on DLBS group was 6.1 ± 1.32 and placebo group was 5.4 ± 1.39 μg/mL (p=0.03). In DLBS group and placebo serum SOD activities were significantly increase (p<0.001 and p=0.001 respectively).

Conclusion: Administration of DLBS3233 100 mg, oral, once daily for 12 weeks cause significant increase of serum SOD activity in new onset type 2 DM patients.

Keywords: *DLBS3233, Cinnamomum burmanii, Lagerstroemia speciosa, SOD, type 2 Diabetes Mellitus*

Inhibition of ubiquitin proteasome system by local anesthetics pilsicainide and lidocaine

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Background: Local anesthetics (LAs) inhibit degradationof proteins, however the mechanisms remain elusive. Purpose of this study was to investigate the inhibition effect ofthe clinically used LAs pilsicainide and lidocaineon the ubiquitin proteasome system.

Methods: *In vitro* study was done in COS-7 cells,MNK45 gastric cancer cells (p53$^{+/+}$), and Kato III cells (p53$^{-/-}$), while *in vivo* study was performed in mice. Measurement of 20S proteasomal activity and ligand binding assaywere conducted using assay kits. Western blot analysis and immunoprecipitation were done to measure the levels of proteins. Docking simulation of compounds of 20S proteasome was done using the Autodock program package.

Results: LAs pilsicainide and lidocaine bound directly to the 20S proteasome and inhibited its activity. Molecular dynamic calculation indicated that these LAs were bound to the β5 subunit of the 20S proteasome, and not to the other active subunits, β1 and β2. Consistently, pilsicainide inhibited only chymotrypsin-like activity, whereas it did not inhibit the caspase-like and trypsin-like activities. In addition, the aromatic ring of these LAs was critical for inhibiting the proteasome. These LAs stabilized p53 and suppressed proliferation of p53-positive but not of p53-negative cancer cells.

Conclusion: Local anesthetics pilsicainide and lidocaine inhibit ubiquitin proteasome systemby binding of their aromatic ring to the β5 subunit of the 20S proteasome, and thus reduced chymotrypsin-like activity, stabilize p53 and suppress proliferation of cells.

Keywords: *Local anesthetics, 20S proteasome, chymotrypsin-like, p53,cell proliferation*

DD 1-05

The dose dependence analysis of the water fraction of *Merremia mammosa (Lour.)* extract on diabetic wound healing enhancement

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ABSTRACT

Introduction: Diabetic wounds or ulcers happened in Indonesia's hospitalized diabetes patients range from 17.3 to 32.9%. The high cost of treatment, the high risk of amputation and the difficulty of handling diabetic wounds, make it necessary to look for alternative medicine derived from plants e.g. *Merremia mammosa (Mm)*. This study aimed to analyze the potential dose of the water fraction of *Mm (Lour.)* extract on diabetic wound healing enhancement.

Method: This study used fifty-seven male wistar rats that were made diabetic by intraperitoneal injection of 40 mg/kg body weight streptozotocin. Rats divided into six groups equally, which consist of positive control (gentamicin 0.1%), negative control (aquadest) and water fraction of *Mm (Lour.)* extract dose 12.5 mg, 25 mg, 50 mg and 100 mg. Wound was made by Morton method and treatment applied on the wound every other day for 21 days. Wound healing process were observed by percent wound healing and histopathological changings on day 0, 3, 10 and 25, representing each healing phase.

Results: The percentage of reduction in wound size comparison at day 10 showed no significant different when compared with positive control started from dose 50 mg. This result is consistent with the histopathological changings parameter (angiogenesis, macrophage, fibroblast and collagen density).

Conclusion: Water fraction of *Mm (Lour.)* extract was dose-dependently enhanced the process of wound healing in diabetic rat model and the most effective dose was 100 mg, which looks similar with positive control. Therefore, it is potential to be developed further as a topical drug.

Keywords: *Merremia mammosa (Lour), wound healing, diabetic ulcers*

DD 1-06

Supplementation of Freeze-Dried Strawberry Powder Reduced Malondialdehyde (MDA) Levels and Improved Testes Histology of Diet-Induced Obesity in Male Rat

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ABSTRACT

Obesity leads to metabolic complications which one of their mediations is associated with oxidative stress. In turn, this contributes to testicular damage. Antioxidant supplementation is considered as effective method to prevent and manage oxidative stress. Strawberry contains high amount of antioxidants. To evaluatethe antioxidative effect of strawberry in testicular tissue of died-induced obesity in male rat,Wistar rats (n=7) as a control group (standard diet) and obese male Wistar rats (n=28) were randomly divided into a High Fat Diet (HFD) group, and HFD supplemented with 1.25 %, 3.4 % and 6 % strawberry powder (HFSP). After 12 weeks rats were euthanized and testes were dissected and homogenized for MDA levels examination usingTBARS Assay Kit,and hematoxylin-eosin-stained for histopathological examination. Results show that supplementation of 3.4 % and 6 % strawberry powderexhibited high antioxidative effects on testes tissue against obesity induced by reduction of MDA level. The pathological changes in the testicular tissue characterized by short seminiferous tubules and seminiferous epithelial height,atrophic, and distorted seminiferous tubules and destroyed basement membranein rat induced by HFD were much reduced by strawberry powder supplementation.

Keywords: *Strawberry, malondialdehyde, antioxidant, obesity, reproductive health, testes histology.*

DD 1-07

Muntingia calabura Leaves Extract, a Potential Gastroprotective Agent against Gastric Mucosal Damage Induced by Soft Drink and Alcoholic Beverages

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ABSTRACT

Introduction: Exposures of alcoholic beverages and soft drinks have been notorious for their deleterious effect on gastric mucosal cell, causing disturbances on gastric mucosa. The high content of antioxidant in *Muntingia calabura* leaves have potentials to counteract the degeneration of gastric mucosal cells due to exposure of both drinks. This study aimed to evaluate the effects of flavonoids in *Muntingia calabura* ethanolic leaves extract (MCELE) as gastroprotective agents against the alcoholic beverages and soft drinks induced gastric mucosal damage.

Method: Twenty four male wistar rats were divided into four groups respectively treated with 1,8 ml/200grBW 40%-alcoholic beverages (K1), 50 ml/day soft drink (K2), pre-treated with 500 mg/kg MCELE one hour before oral administration of 40%-alcoholic drinks (P1) and soft drink (P2). All rats were treated for 30 days. On the 31st day, the rats were teminated and the histological degrees of gastric mucosal damage were determined by modified scale of epithelial mucosa integrity *Barthel-Manja*.

Results: The K1 and K2 group exhibited severe gastric mucosal injury, with observed ulceration percentages of 33,3% and 23,3% respectively. Meanwhile, the pre-treated MCELE groups (P1 and P2) exhibited significant protection of gastric mucosa histologically ($p < 0.001$), showing 0,0% of ulceration on both groups.

Conclusion: Soft drinks have degenerating effect as strong as the alcoholic beverages. The treatment with MCELE prior to 40%-alcoholic beverages and soft drinks has significantly protected gastric mucosa as ascertained by significant reduction of gastric mucosal injury and increase in normal gastric mucosa.

Keywords: *alcohol, soft drinks, gastric mucosa, Muntingia calabura.*

DD 1-08

Effect of *Muntingia calabura* Leaf Extract as Protective Agent against Spermatogenesis Damage Induced by Alcoholic Beverage and Soft Drink

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ABSTRACT

Introduction: Chronic consumption of alcoholic beverages and soft drinks are known to disrupt the function of male reproductive organs and may lead to infertility. High flavonoid content in leaves of kersen (*Muntingia calabura*) can counteract the damaging effects of both drinks to the testis. This study aimed to prove the protective effect of *Muntingia calabura* leaf extract on microscopic structure of Wistar rat testis induced by alcoholic beverage and soft drink.

Methods: 24 male Wistar rats were divided into four groups respectively treated with 1,8 ml/200grBW 40%-alcoholic beverage (K1), 50 ml/day of soft drink (K2), pre-treated with 500 mg/kg *Muntingia calabura* ethanolic leaves extract (MCELE) one hour before oral administration of 40%-alcoholic beverage (P1), and soft drink (P2). The administration of treatment carried out for 30 days, then rats were terminated and observation for microscopic structure of testicular were conducted using Johnsen criteria.

Results: Testicular histological damage occured with majority of azoospemia category and exhibited less number of normal spermatogenesis in K1 and K2 (30% and 23,3%). Concurrently, the pre-treated MCELE groups (P1 and P2) exhibited majority of normal spermatogenesis category (70% and 76,7%), ($p < 0.001$).

Conclusion: Administration of *Muntingia calabura* leaf extract has protective effect against testicular spermatogenesis damage of Wistar rat induced by alcoholic beverage and soft drink.

Keywords: *Alcoholic beverage, soft drink, Muntingia calabura, testis*

DD 1-09

GlnPQ as a novel target for drug development against gram positive bacteria

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ABSTRACT

Introduction: GlnPQ is an SBD-dependent ABC transporter that present in low GC Gram-positive bacteria. The system is required for nitrogen source intake (Gln, Glu, Asn) and has been implicated in virulence in pathogenic bacteria. Furthermore, it lacks homologs in humans and mammals, therefore is potential target for drug development. This study aim to identify compounds that inhibit the activity of GlnPQ, using the crystal structures of the SBDs of GlnPQ from *L. lactis* for structure-based virtual screening of a drug library database.

Method: Two distinct molecular docking programs, Autodock-Vina and FlexX, were used to make a virtual library of potential inhibitor compounds that targeted crystal structure of SBD1 and SBD2 of GlnPQ from *L.lactis.* A selection of hits compounds were experimentally tested in *L. lactis* using high throughput bioactivity assay.

Results: We were able to identify lead compounds that affect growth when the target organism is made dependent of GlnPQ. Four compounds were found selectively inhibited GlnPQ, of which three share the same core structure.

Conclusion: This study offer an alternative strategy to fight pathogenic bacteria through the inhibition of an essential ABC transporter.

Keywords: *Structure-based drug design, GlnPQ, ABC transporter*

DD 1-010

The Effect Combination of A Progressive Relaxation, Hypnosis, and Aromatherapy to Dysmenorrhea

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ABSTRACT

Background: The discomfort caused by menstrual pain or dysmenorrhea if not treated can affect mental and physical functioning. It needs to be given an intervention to reduce it. Currently there are various methods that can be done include pharmacological and nonpharmacological therapy. Pharmacologic therapy with analgesic administration may provide side effects when administered in the long time. Therefore it is necessary to develop nonpharmacology therapy to resolve dysmenorrhea.

Purpose: To analyze the differences of menstrual pain before and after being given combination of progressive relaxation therapy, hypnosis, and aromatherapy.

Method: This study is a quasi experimental with pretest-posttest without control group. A sample of 30 women with primary dysmenorrhea, menstruation the first day until the third day, aged 17-22 years, and do not use analgesic medication.Intervention is done once for 30 minutes.Aroma therapy used is lavender. Pain is measured using numeric scale rating pain. Data Analysis using paired T test.
Results: the mean pain score before intervention was 4,90 (SD= 1,136). The mean pain score after intervention was 2,58 (SD= 1,057).There was a decrease in pain score after an intervention amount of 2.32.From the results of statistical tests, there are differences in pain scores before and after intervention (p value 0,000 ; α=0,05).
Conclusion: There is an effect of combined progressive relaxation therapy, hypnosis and aromatherapy to menstrual pain. Combination therapy can be an alternative way in reducing menstrual pain, other than using pharmacological drugs.

Keywords: *Progressive relaxation, hypnosis, aromatherapy, menstrual pain, dysmenorrhea*

DD 2-01

The Benefits of 1% Soy Isoflavones Cream as an Anti-Acne Vulgaris

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ABSTRACT

Introduction: Acne vulgaris (AV) is a most common skin disorder, while soy isoflavones act as anti-inflammatory and anti-androgens. The aim of this study is to prove the benefits of soy isoflavones cream as anti-AV and the most effective dose as adjuvant regiment to reduce the quantity of AV lesions.

Method: This research wasdouble blind, pre-test and post-test randomized controlled trial involving a hundred AV female patients who were randomized into 5 groups. Each group was treated with 0%, 0.25%, 0.5%, 0.75% and 1% soy isoflavones cream for four weeks as therapy for AV. The results of treatment were evaluated on 5th week for the reduction of total AV lesions.

Results: The mean number of AV lesions before treatment in all groups were not significantly different ($p>0.05$). The mean number after treatment in each 0%, 0.25%, 0.5% and 0.75% isoflavones cream groups were not significant ($p>0.05$), while in the 1 % isoflavones cream group was significanty lower ($p<0.05$).

Conclusion: Soy Isoflavones proved to be useful as an anti-AV and 1% soy isoflavones cream is the most effective dose to reduce the number of AV lesions.

Keywords: *Acne vulgaris, Soy isoflavones cream*

DD 2-02

Effectiveness Aromatherapy of Essential Oil Cabe Jawa (Piper retrofractrum, Vahl) To Blood Pressure, Pulse, and Respirations of Patient Before Teeth Extraction

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ABSTRACT

Introduction:Anxiety before tooth extraction can be one of obstacles for the operators to perform cure procedure. One way that can be performed to reduce the anxiety is by using of cabejava (Piper Retrofractum, Vahlaromatherapy). Linalool contained in essential oil of cabejavaaffects the activity of brain function that passes the nerves associated with the sense of smell and relatedto psychological conditions such as anxiety. The researchaimedatknowing the effect of cabejava aromatherapy for relieving patient's anxiety before tooth extraction.

Method: This research was quasi experiment with one group pre-test and post-test research design, there were 15 respondents who inhaled aromtherapy for 15 minutes undergoingtooth extraction, after that the procedure using physiological evaluation such as blood pressure, pulse, and respiration to measure anxiety changes.

Results: There was decrease in blood pressure of 8, 3/4,6 mmHg, a pulse of 2,74 times/minute, and respiration of 3,47 times/minute.

Conclusion: The result showed that the patient's bloodpressure, pulse, and respiration decreased after inhalingcabejava aromatherapy. Aromatherapy made from cabejava essential oil was expected to be used as one of methods to reduce anxiety.

Keywords: *cabe java, anxiety, linalool, aromatherapy*

DD 2-03

The Effect Of Nigella Sativa Extract On Interleukin 12 Level Of Multibacillary Leprosy Received WHO-MDT Therapy

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ABSTRACTS

Background: Leprosy is a granulomatous infectious disease affecting the skin and nerves caused by *M.leprae* that can result in deformity, disability, and stigmatization, usually found in developing countries such as Indonesia. Immunity is one factor that influences leprosy. Interleukin 12 (IL-12) is animmunoregulatory cytokines that have a role in intracellular bacterial infection such as *M.leprae.Nigella sativa* (black cumin) have immunomodulatory effect and in studies were shown to improve IL-12 level. This research is aimed to know the effect of *Nigella sativa* on IL-12 level leprosy patient who got MDT-WHO.

Methods: This study is an experimental study with *double blind-randomized controlled trial*, with the total sample of 34 multibacillary leprosy patients and divided into 2 groups, the study were 8 weeks. The independent variable was multidrug therapy of leprosy with *Nigella sativa* and placebo, while the dependent variable is the IL-12 level.

Results: The mean IL-12 levels after 8 weeks treatment were significantly higher in the treatment group (MDT-WHO) and *Nigella sativa* as were the mean delta values of IL-12 ($p<0,05$) than control group (MDT-WHO) and placebo

Conclusion: *Nigella sativa* extract increases IL-12 levels in multibacillary type (MB) leprosy patients)

Keywords: *multibacillary leprosy, Nigella sativa, interleukin12*

DD 2-04

Effect of Mangosteen (*Garcinia Mangostana* Peel Extract Towards CD4+, CD8+ T Lymphocytes, CD38 Expression, NK Cells, IL-2 and IFNγ in HIV Patients With Antiretroviral Therapy

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ABSTRACT

Introduction: HIV/AIDS still being an emerging &epidemicdisease in Indonesia. Humans infected with HIV have shown to be under chronic oxidative stress. Experimental studies have shown that obtained xanthones from mangosteen have remarkable biological activities as antioxidant. Aim of this study is to analyze the effects of Mangosteen Peel Extract (MPE) toward CD4+ T cells, CD8+ T cells, NK cells, CD8+CD38 expression,levels of IL-2 and IFN-γ, in HIV patients with antiretroviral therapy.

Method: This experimental study was designed using double blind randomized control group which randomized by permuted table. Subjects were HIV-positive patients receiving antiretroviral therapy more than 6 months. Patients were divided into 2 groups; treatment group (n=20) and placebo group (n=20). Treatment group hadbeen given MPE 2400 mg/day for 30 daysthe same as placebo group. The variables were measured before and after treatment using FacsCalibur Becton-Dickinson flowcytometry.

Results: There was significant increase in the number of CD4+T cells (p=0.001). There was significant decrease in CD38 expression (p=0.001). There were no significant changes in CD8+T cells (p=0.601), NK cells (p=0.911), IL-2 (p=0.260) and IFN-γ(p=0.588).

Conclusion: Mangosteen peel extract increases the number of CD4+ T cells and decreases the level of CD38 expression, whereas effectof CD8+ T cells, NK cells, IL-2and IFN-γ in HIV patients with antiretroviral therapy were not significant.

DD 2-05

Antiretroviral Side Effect on Adherence in People Living with HIV AIDS at Dr. Kariadi General Refferal Hospital Semarang Central Java

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ABSTRACT

Background: Antiretroviral (ARV) therapy is a lifelong treatment in people living with HIV/AIDS (PLWHA). Adherence is the key to the effectiveness of antiretroviral therapy. ARV have side effects that may affect patient adherence.

Purpose: The purpose of this study was to examine the impact of ARV side effects on drug adherence in PLWHA.

Method: This study used cross-sectional approach. Sample size in this study was 78 consist of people who were recruited by purposive sampling. These subjects received ARV therapy in Tropical Disease and Infection Polyclinic at General Hospital of Dr. Kariadi Semarang.

Result : Result showed that eta^2 is 0,525625. It means that ARV side effect has impact on ARV adherence. Most of the side effects reported by the respondents were nausea and dizziness. Some respondents also reported experiencing weakness, difficult to concentrate, and diarrhea.

Conclusion: Side effects have impact on patient's ARV therapy adherence. Therefore, health care provider for PLWHA should be able to recognize and concern on ARV side effect management.

Keywords: *adherence; PLWHA; side effect*

DD 2-06

Effect of Tempuyung Leaf Ethanol Extract on Kidney Morphometric Parameters in Gentamicin Treated Rats

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ABSTRACT

Introduction: Tempuyung has been well known in our heritage folklore as traditional medicine. Its antioxidant property is believed can ameliorate the side effect caused by gentamicin. The purpose of this study was to obtain data of tempuyung leaf ethanol extract on kidney morphometric parameters on rats induced by gentamicin.

Method: The study design was true experimental, was conducted on four groups of rats (n=4): control group (C), gentamicin induced only (G) and 2 other groups treated with both gentamicin and tempuyung leaf ethanol extract with low dose (T1) and high dose (T2). Both gentamicin and tempuyung leaf ethanol extract were administered once daily for 10 days. On day 11, laparatomies were performed to preserve the kidneys. For evaluation, the parameters of the kidney morphometry were taken, including its length, width, thickness and volume of both kidneys of each rats. The data was statistically analyzed.

Results: The mean kidney length was 1.74±0.18 cm on the right side and 1.77±0.18 cm on the left side. The mean width of the right and left kidneys were 1.18±0.12 cm and 1.22±0.14 cm respectively. The mean thickness of the right and left kidneys were 0.78±0.14 cm and 0.79±0.07 cm respectively. The mean renal volume of the right and left kidneys were 1.62±0.33 cm3 and 1.74±0.47 cm3 respectively.

Conclusion: In conclusion, tempuyung leaf ethanol extract administration suggestively showed no significant differences between tempuyung treated groups and gentamicin group, viewed from kidney morphometric parameters.

Keywords: T*empuyung, Kidney, Morphometric, Gentamicin*

DD 2-07

Utilization Aloe Vera And Virgin Coconut OIL (VCO) Extract For Broken Heel

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ABSTRACT

Background: Heel xerosis is one of the most common disease of people in indonesia. The incidence of this disease is relatively high especialy for people with age above 21 years old. This disease is often happen in women. But, people often ignored when they have this disease. One of the treatment of this disease is by using a moisturizer. Aloe vera and virgin coconut oil (vco) are natural materials the herb that can be use as natural moisturizer

Aim: To prove the effect of aloe vera and virgin coconut oil (vco)in the treatment of heel xerosis

Method: this research use one group pre test post test design. The subjects are choosen by purposive sampling method from the people that live in Tembalang district at semarang regency

Result: There are significant effect after the usage of aloe vera and virgin coconut oil (vco) extract for the decrease of the xerosis severity scale level, with the score of T-pair test $p = 0{,}001$

Conclusion: The usage of aloe vera effective and virgin coconut oil (vco) for the treatment of heel xerosis

Keywords: *Aloe vera, virgin coconut oil (vco), xerosis Severity Score (XSS)*

DD 2-08

Effect Of Papaya Leaves Jelly on Reducing Blood Pressure In Prediabetic Women

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ABSTRACT

Objective: Individual with prediabetes had higher risk of hypertension. In Indonesia, the prevalence of prediabetic with hypertension was higher than prediabetic with no hypertension. The chemical compounds contained in papaya leaves were known to have effects on lowering blood pressure. The purpose of this study was to assess the effect of papaya leavesjelly on blood pressure.

Methods: This was an experimental study with pre-post control group design. Subjects were 27 prediabetic women aged 35-50 years old which were divided into two groups. Treatment group (n = 13) received 24.6 grams papaya leaves jelly containing 182.4 mg chlorophyll, while the control group (n = 14) received jelly with green dye 24.6 grams. The interventions were performed for 20 days.

Results: Systolic and diastolic blood pressure in the treatment group had significant reduction from 130.14 ± 25.25 to 124.29 ± 25.48 (p = 0.008) and 89.00 ± 13.49 to 84.43 ± 14.16 (p = 0.02) respectively. Meanwhile, there was no significant blood pressure reduction in the control group.

Conclusion: Consumption of papaya leaves jelly could reduce systolic and diastolic blood pressure in prediabetic women.

Keyword: *papaya leaves, blood pressure, prediabetic*

DD 2-09

Expression of caspase 3 and caspase 7 in trabecular meshwork of glaucoma model wistar rat

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ABSTRACT

Purpose: Glaucoma is the second cause of blindness. The pathogenesis of the disease is still unclear. Several mechanisms are involved in mechanism of glaucoma. The purpose of this study is to observe the effect of increasing intra ocular pressure on expression of caspase 3 and caspase 7 as biomarker of apoptosis activity

Method: The subject of this study was 14 Wistar rat that divided into 2 (two) groups. Group I (7 Wistar rat) underwent anterior chamber cannulation in order to make a glaucoma model and Group II as a control group. Both groups were enucleated 2 weeks later. Expression of caspase 3 and caspase 7 in trabecular meshwork of both groups were examine using immunohistochemical staining. The score was determined using Allred score.

Result: The difference of caspase 3 expression in glaucoma group and control group were tested using Kruskall Wallis dan Mann Whitney. Expression of caspase 3 in glaucoma group was higher than control group (6 vs. 6.4, p 0.355) but not significant. Expression of caspase 7 in glaucoma group was significantly higher than in control group

Conclusion: Apoptosis activity was higher in glaucoma model Wistar rat

DD 2-10

The Effect of Zinc Supplementation on Serum albumin in Elderly Population

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ABSTRACT

Background: Zinc is an essential trace element, and constituent of many metallo-enzymes required for normal metabolism. Its deficiency can play an important role in the aging process and in the etiology of several age-related chronic illnesses. Age may be associated with altered metallothionein metabolism related to changes in zinc metabolism. It might be due to nutrient intake insufficiency, organs degeneration, and oxidation of pre-formed albumin.

Aim: This study was aimed to determine the effect of zinc supplementation on serum albumin level in elderly.

Method: This was a randomized control trial, with pre and post-test control group design, we included 31 elder people who met inclusion-exclusion criteria. Samples were randomly divided into two groups. Treatment group (n=18) were daily supplemented with 40 mg zinc and twice a week of exercise treatment, whereas control group (n=17) were placebo supplemented and got exercise treatment at same amount as treatment group. Both treatment lasted for 8 weeks. Albumin level analysis was performed before and after the trial. The data was analyzed with Wilcoxon and Paired t-test.

Result: The result showed that the average level of serum albumin improved in both groups. Treatment group resulted in significant increase of mean albumin level by 0,53± 0,23 g/dl, p<0.001 while the change in placebo group was not significant (0,26 ± 0,61 g/dl, p=0,175).

Conclusion: Zinc supplementation could improve serum albumin level on elder subject.

ID 1-01

Isolation of Jack Bean (*Canavalia ensiformis* (L.) DC) Proteins to Create a Skin Prick Test Reagent For Jack Bean Allergy Diagnosis

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ABSTRACT

Introduction: Jack bean (*Canavalia ensiformis* (L.) DC) has been widely used by Indonesian people for food and can be used as a wheat substitute. Jack bean is suspected to contain protein allergens that can cause allergies. This study aimed to create a skin prick test reagent of jack bean that meets the requirements of the European Pharmacopoeia Monograph on Allergen Products 7 (2010:1063).

Method: Isolation of protein was conducted by isoelectric precipitation, while characterization of protein allergen was conducted by SDS-PAGE and immunoblotting methods. Reagent formulation and quality specifications used in this study were in accordance with European Pharmacopoeia.

Results: The protein contents of jack bean isolates was 85,9% with an extraction yield at 64,3%. The jack bean protein isolate was composed of 15 protein bands with the molecular weights of 11.6-77.4 kDa. The allergenic jack bean protein has the molecular weights of 18.2-127.7 kDa after analysis with immunoblotting method. The jack bean protein isolate was formulated into a skin prick test reagent. The jack bean reagent met the requirements of the European Pharmacopoeia for the parameters of moisture content, protein content, sterility and microbiology. A skin prick test to the respondents indicated that the sensitivity value of jack bean reagent was 89% with a negative error rate at 11%. The specificity of jack bean reagent was 100% with an error rate of positive diagnosis occurrence at 0%.

Conclusion: Jack beans contained protein allergen that could be used to create skin prick test reagent to detect allergic reactions to jack beans.

Keywords: *jack bean, skin prick test*

ID 1-02

The Effect of Stress on IL-17 Levels in an OVA-immunized Mice Allergic Model

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ABSTRACT

Objective: Evaluate the effect of stress on eosinophil count, levels of cortisol and levels of IL-17 in an OVA-immunized Mice Allergic model by comparison of the eosinophil count of group 2 and group 1, comparison of cortisol levels of group 3 and group 1, and comparison of IL-17 levels of group 3 and group 1.

Method: Eight teen female BALB/c mice divided into 3 groups. Negative control in group 1, Allergy control in group 2 group received ovalbumin sensitization only and stress treatment in Group 3 received ovalbumin sensitization and stress using water-immersion stress test on day 24th, 26th and 30th. All mice are terminated on 31st day, lungs and blood sample are collected and measured for eosinophil count microscopically, level of cortisol and level of IL-17 using ELISA.

Results: Mean eosinophil count for group 1 is 0.48 per high power field (hpf), group 2 is 2,13 hpf, group 3 0.8 hpf. Mean cortisol level for group 1 is 9.13 ng/mL, group 2 is 10.85 ng/mL, group 3 25.47 ng/mL. Mean IL-17 level for group 1 66.71 pg/mL, group 2 is 22.36 pg/mL, group 3 is 26.38 pg/mL.

Conclusion: The number of eosinophils in the allergy control in group 2 (2.13/hpf) was significantly higher than the negative control in group 1(0.48/hpf) (p = 0.004). Levels of cortisol in the stresstreatmentin group 3 (25.47 ng/mL) were not significantly different from the allergy control in group 2 (10.85 ng / mL) (p = 0.180).Levels of IL-17 in the stresstreatmentin group 3 (26.38 pg / mL) did not differ significantly from the allergy control in group 2 (22.36 (p = 0.394.))

Keywords: *Allergic Rhinitis, Ovalbumin, Stress, Cortisol, IL-17*

ID 1-03

Urinary Tract Infection caused by ESBL producing Strains in Pediatric Patients Hospitalized in dr. Kariadi Hospital

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Background
Urinary tract infection (UTI) is one of the most common pediatric infection. It distresses the child, and may spread to blood-stream infection, or cause permanent kidney damage. The prevalence of UTI caused by multidrug resistant organisms, in particular extended spectrum betalactamase (ESBL) producers seems to increase in Indonesia. This study aimed to describe the emergence of ESBL producers *E.coli* and *K. pneumoniae* in childhood UTI.

Methods: A retrospective study was performed by collecting secondary data from microbiology laboratory logbook and medical records from January through October 2016 of pediatric patients (0 – 18 years old)

Results: In total, 232 urine cultures were performed from 232 patients; mostly were male (54%) and aged 1-5 year-old (68%). Significant bacteriuria was found in 89 (38%) of the patients. Enterobacteriacea *(E.coli, Enterobacter sp, Klebsiella sp, Citrobacter sp, Proteus sp)* constituted 51 (59%) of the uropathogens with *E. coli* (28%) and *K. pneumoniae* (17%) as the most frequently isolated. ESBL producer strains constituted 57 (55%) of the Enterobacteriaceae. ESBL producers was found in 58% of urine cultures done in the first 3 days and in 49% of thereafter (p=0.43).

Conclusions: The incidence of ESBL producers infection in UTI was high, underlining the urgency of performing prospective studies and the implementations of antibiotic resistance control program including the selection of empirical antibiotics.

ID 1-04

Interrelationship of platelet number and reactivity with plasma cytokines, acute phase proteins and cytokine responses in the 500-Human Functional Genomics cohort of healthy volunteers

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ABSTRACT

Introduction: Platelets are increasingly recognized as key cells in inflammation and immunity, which are able to synthesize and release an array of chemokines and cytokines, including interleukin (IL)-1β. The interrelationship between the immune activities of platelets and their hemostatic function remains incompletely understood. We investigated the intricate relationship between the number and reactivity of platelets with plasma concentrations of cytokines. Subsequently, we investigated the relationship of platelet reactivity with cytokine responses to a range of stimuli and determined associations of known genetic variations in platelet function with these cytokine responses and *vice versa*.

Methods: The 500-Human Functional Genomics (500FG) cohort consists of approximately 500 Caucasian, healthy individuals. Platelet function was determined by whole blood flow cytometry measuring the expression of P-selectin (a marker of platelet degranulation) and the binding of fibrinogen to the activated $\alpha_{IIb}\beta_3$ integrin (a marker for platelet aggregation) after *ex vivo* stimulation of whole blood with adenosine diphosphate (ADP) and collagen-related peptide (CRP-XL). Cytokine concentrations were measured using high-sensitive Ella Simple Plex™ assays or ELISA. Whole blood and peripheral blood mononuclear cell (PBMC) cytokine responses were determined after stimulation with different synthetic, bacterial and fungal stimuli. Genotyping was performed using Illumina HumanOmniExpressExome SNP chip and was imputed to obtain genotypes at ~7 million SNPs.

Results: We found a strong positive correlation between platelet number and plasma IL-1β concentrations (Spearman R= 0.29; uncorrected P= 8.9x10^{-9}) and an inverse correlation between platelet number and alpha1-antitrypsin (AAT; R= -0.398; uncorrected P= 1.04x10^{-18}) concentrations. We found multiple positive associations between platelet reactivity with IL-1β and IL-6 responses in whole blood and PBMC, whereas correlations with IFN-γ responses were predominantly

negative. From the literature, we selected 30 platelet SNPs that were significantly related with platelet traits in our cohort. Twenty-two of these SNPs had at least one association with cytokine responses and five had more than five associations.

Conclusions: Platelet number and plasma IL-1β concentrations are interrelated in healthy individuals, and platelet reactivity is associated with cytokine responses, both on a functional and a genetic level. These findings emphasize the inflammatory activities of platelets and their capacity to serve as links between the hemostatic, inflammatory and immune systems.

Keywords: *platelets, platelet function, immunity, inflammation, genetics*

ID 1-05

The Effect of Zinc Supplementation on The Number of Eosinophil in the Lungs of Allergic Patients Experimental Study on BALB/c mice with Ovalbumin Sensitization

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ABSTRACT

Background: Allergic rhinitis and asthma are related in causing allergic inflammation in the respiratory tract. One of the abnormalities is the accumulation of eosinophils in the lung, resulting toxic to the tissue. Ovalbumin (OVA) can stimulate allergic reactions. Zinc supplementation, working as cytoprotectant, anti-inflammatory, and antioxidant, is estimated to reduce the number of eosinophils in the lung.

Objective: Proving the effect of zinc supplementation on the number of eosinophils in the lung histopathologic preparations of BALB/c mice that were sensitized with OVA.

Method: We used *post-test only control group design*, which consists of 18 female BALB/c mice divided into 3 group: negative control group (K1), positive control group with OVA sensitization (K2), and group of mice with OVA sensitization and 5mg/Kg body weight zinc supplementation (P). The treatments were given for 30 days. After that, the number of eosinophils in the lung histopathologic preparations of BALB/c mice that were sensitized with OVA were counted.

Results: The mean eosinophils count in negative control group (K1) was 0.48, positive control group (K2) was 2.12, and group of mice with OVA sensitization and 5mg/Kg body weight zinc supplementation (P) was 0.76. The number of eosinophils in the lung in P group was significantly lower than K2 group in Anova Test followed by Post Hoc Test (p = 0.000).

Conclusion: Zinc supplementation reduces the number of eosinophils in the lungs of BALB/c mice that were sensitized with OVA.

Keywords: *Zinc, ovalbumin, eosinophil, allergic rhinitis, asthma*

DD 1-06

The Impact of *Antenatal Coping Skill Training* (ACST towards Cortisol and IgG Serum Level among Pregnant women

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ABSTRACT

Introduction: Stress coping skill is beneficial to make better outcomes for the pregnancy and childbirth. The purpose of this study was to examine the impact of antenatal coping skills training on cortisol and IgG levels.

Method: This study used a randomized pre-test post-test control group design in which the age of *primigravida* namely 24-34 weeks in Semarang city Public Health Center were selected randomly. The mothers were randomly assigned to be an experiment group (N=31) and control group (N=31). There were two pregnant women who dropped out because of giving birth. The intervention consisted of standard antenatal education and antenatal coping skill training and control group was given standard antenatal education. The data collection was conducted in 4 weeks. Cortisol and IgG serum level were taken at the first week before the intervention and fourth week after the intervention. Cortisol and IgG serum level were measured by using ELISA method. The data analysis employed dependent sample t-test and independent sample t-test.

Results: There was significant change over Cortisol serum level for the subjects who participated in intervention of antenatal coping skills training namely (p<.01). Conversely, the subject in control group only shows (p= .461). However, a significant change over the decrease of IgG serum level is encountered by the control subjects namely (p<.01).

Conclusion: Antenatal coping skills training is predominantly effectual to reduce cortisol and enhance IgG serum level. Thus, it is important for pregnant women to provide antenatal psychoeducational training.

Keywords: coping skill, cortisol, IgG serum, primigravid

ID 1-07

The Effects of Melatonin on Random Blood Glucose Levels in the Wistar Rats Model of Sepsis

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ABSTRACT

Introduction: Sepsis causes an increase in blood glucose levels due to pro-inflammatory cytokines that causes insulin resistance and an increase in insulin counter regulatory hormone. Melatonin is an antioxidant therapy whose roles for sepsis therapy still need further investigation. This study was to observe the effects of melatonin on random blood glucose levels in Wistar rats sepsis model.

Method: This was an animal experimental study with a randomized control group using pre- and post-test design. Twelve male Wistar rats were intra-peritoneally injected with 2 mg lipopolysaccharide (LPS) per 200 grams rats and then divided into two groups. The experimental group was orally administered by 4 mg melatonin per 200 grams rats, while the control group was by placebo (aquadest. The levels of random blood glucose were examined from the retro-orbital blood vessel in the 6 hours after intra-peritoneally LPS injection (T0), 1 hour (T1) and 2 hours after melatonin administration (T2).

Results: There were no significant differences in the levels of random blood glucose between the control and the experimental group in the 6 hours after intra-peritoneally LPS injection (T0 (133,00±19,97 vs 133,50±17,09), p=0,589), after 1 hour melatonin administration (T1 (163,33±13,84 vs 149,17±39,23), p=0,424) and 2 hour melatonin administration (T2 (171,67±15,88 vs 132,83±50,70), p=0,124). There were significance increases in random blood glucose levels in the control group after T1 (163,33±13,84 vs 133,00±19,97), p=0,028 and T2 (171,67±15,88 vs 133,00±19,97), p=0,028 in comparison to T0, as well as after T2 in comparison to T1 (171,67±15,88 vs 163,33±13,84), p=0,005. Whereas in the experimental group, there were no significant increases in random blood glucose levels after T1 (149,17±39,23 vs 133,50±17,09), p=0,500 and T2 (132,83±50,70 vs 133,50±17,09), p=0,979 in comparison to T0, as well as after T2 in comparison to T1 (132,83±50,70 vs 149,17±39,23), p=0,538.

Conclusion: Melatonin treatment alone could prevent the elevation of random blood glucose levels in Wistar rats sepsis model.

Keywords: *sepsis, random blood glucose, melatonin, lipopolysaccharide*

ID 1-08

Annona muricata effect towards spleen-CXCL10-expression of Swiss-mice during severe *Plasmodium berghei* ANKA infection

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ABSTRACT

Objective: To determine the effect of the ethanolic *Annona muricata* leaf extract (AME) toward spleen-CXCL10-expression of *Plasmodium berghei* ANKA (PbA-infected-swiss-mice) during severe malaria.

Method: A randomized post test only control group design was performed. Thirty six swiss-mice were divided into 6 groups. C(-) was healthy mice, and C(+) was inoculated with PbA. X_1 and X_2 were healthy and received AME 100 and 150 mg/kg BW/day, respectively. X_3 and X_4 were inoculated with PbA and treated with one of dose studied.

Results: *Kruskal-Wallis* test showed significant difference among the studied groups (p = 0.022). *Mann-Whitney U* test showed that C(+) group was significantly higher CXCL10 expression than X1 (p=0.044) and nearly significant higher than C(-) group (p=0.054). C(+) group expresses CXCL10 comparable with X3 (p=0.391) and X4 (p=0.461). There was a comparable CXCL10 expression between X3 and X4 groups (p=0.537).

Conclusion: *Annona muricata* might have no effect on spleen-CXCL10-expression of PbA inoculated swiss albino mice during SM.

Keywords: *Annona, Plasmodium berghei ANKA, CXCL10*

ID 1-09

The effects of acute stress on primary immune response of hepatitis B vaccination: study in Wistar albino rats

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ABSTRACT

Introduction: The first primary vaccination coverage in Indonesia was less than 50%. Paradoxically stress may either suppress the immune response, or as an immune enhancing. Objective of this study was to reveal the effects of acute stress on primary immune response of hepatitis B vaccination.

Method: An experimental study with pre-post control group design was done. Twelve Wistar albino mice were randomly allocated into two groups,i.e. intervention and control groups. All rats were given recombinant hepatitis–B vaccine.Acute stress for 3 hours were given to intervention group only.The blood was drawn before vaccination of both groups as baseline data, and at 3 hours after intervention for corticosterone measurement. After one month, second blood was drawn for the measurements of NK cells, IL-4, IFN-γ, total IgG and HBs antibody.

Results: NK cells was significantly decreased in intervention group, but not in control group, IL-4 significantly increased in both groups, and IFN-γ significantly increased incontrol group, but not in intervention group.The Immunoglobulin G tend to increase after intervention,but decrease in control group. Acute stress does have no effects on anti HBs antibody production.

Conclusions: Acute stress has an adjunctive effects on IFN- γ, IL-4 and IgG,has suppression effect on NK cell and has no effect on anti HBs production. EventhoughantiHBs antibody production was not prominence yet, but the cytokines which involved in primary immune response were increased.

Keywords: *acute stress, hepatitis B vaccine, primary immune response*

ID 1-010

Role Of Red Fruit (*Pandanus conoideus)* Towards Photoaging Inhibition in Balb/C Mice Skin

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ABSTRACT

Objective: To know the role of red fruit towards photoaging inhibition, assessed from total number of type I procollagen in mice skin.

Method: This is an animal experimental study, using mice as the model animal and divided in 3 groups. Group 1 (control group), group 2 (exposed with ultraviolet ray from artificial source), group 3 (exposed with ultraviolet ray and given red fruit orally). Biopsy of the skin was done after treatment, checked using immunohistochemistry with staining of type I procollagen and then evaluated using computer program.

Result: This study showed an increased expression of type I procollagen in group 3 compared with group 2.

Conclusion: Red fruit can be used to prevent photoaging.

Keywords: *Pandanus conoideus, photoaging, and type I procollagen*

ID 1-011

Distribution OF CD4+ RORg-T Th17 and CD25+ FOXP3+ Treg in Leprosy Patien With Reversal Reaction

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ABSTRACT

Objective: To compare the distribution of CD4+ ROR-g Th17 and CD25+ FOXP3 Treg between RR and ENL patient groups.

Method: A total of 50 samples, consisted of 25 samples of RR and 25 samples of ENL, were collected. Observation of CD4+ RORg-T Th17 and CD25+ FOXP3 Treg were conducted with immunohistochemistry staining technique using anti FOX-P3 and anti RORg-T. Expression of CD4+ ROR-g Th17 and CD25+ FOXP3 Treg in percentage were analyzed using T-test.

Result: There is a significant difference in the mean of Th17 and IL17 cell distribution for RR patient group (14.96% and 10.72%) compared with ENL (9.12% and 4.28%). No significant difference was found between mean Treg and TGF-β cell distribution in RR patient group (6.12% and 5.44%) compared with ENL group (6.16% and 5.96%).

Conclusion: There is a significant increment of CD4+ RORg-T Th17 and IL17 in RR patients group compared with ENL patients group.

MeSH word : Th17 Cells, Treg Cells, Leprosy

ID 1-012

The Evaluation of PMP22 and Protein 0, Examinations for Early Disability Detection In Leprosy Patients

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ABSTRACT

Introduction: Leprosy is a chronic infectious disease caused by *Mycobacterium leprae* that has a predilection for peripheral nerves, especially Schwann cells. Leprosy medications may only eradicate the bacteria without preventing or recovering peripheral nerve damage. Thus, early nerve damage detection becomes fundamental. Previous studies proved that Krox-20 could be a useful diagnostic tool for early peripheral nerve damage detection in leprosy; we assumed PMP22, P0, NGF, and NRG1could also play the same role.

Objective: To analyse and to determine PMP22, P0, NGF, and NRG1cut-off points as diagnostic tools of early disability in leprosy.

Methods: We examined ambulatory patients at Kediri Leprosy Hospital, Indonesia. We employed WHO's criteria to assess the degree of disability and measured the study variables using ELISA. We then determine the cut-off value using Receiver Operating Characteristic curve,

Results: From overall patients (n=79), 36 patients had 0-degree of disability, and 43 patients had 1-degree of disability. The ROC curve analysis revealed cut-off values for PMP22 and P0 at 4,42pg/mL and 11,39pg/mL, respectively. The mean value for all variables in patients with 0-degree of disability were higher than that in patients with 1-degree of disability at 12,56 pg/mLvs 4,24 pg/mL ($p<0,05$) and at 9,85pg/mLvs 2,86pg/mL, respectively ($p<0,05$). The result of 2-tailed T-test in PMP22 level showed F value = 58.869 with p=0,000 ($p<0,05$). The cut off value for PMP22 is 4,41 pg/mL. The result of 2-tailed T-test in P0 level showed F value = 9.909 with p=0,000 ($p<0,05$).The result of 2-tailed T-test in NGF level showed F value = 22.098 with p=0,000 ($p<0,05$). The cut off value for P0 is 81,43 pg/mL. The result of 2-tailed T-test in NRG1 level showed F value = 101.849 with p=0,000 ($p<0,05$). The cut off value for P0 is 18,74 **pg**/mL.

Conclusion: Leprosyis a chronic infectious disease that brings forth many degrees of disability secondary to peripheral nerve invasion,particularly Schwann cells. Hence, early detection of peripheral nerve damage becomescrucial. The evaluation of PMP22, P0, NGF, and NRG1examinations is useful to identify early peripheral nerve damage in leprosy.

Keywords: leprosy, degree of disability, PMP22, P0, NGF, NRG1

ID 2-01

The Difference of D-Dimer Levels between Chronic Hepatitis and Cirrhotic Hepatic

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ABSTRACT

Background: Chronic hepatitis and cirrhotic hepatic are chronic liver disease that cause liver function abnormalities. One of them is hemostasis. Chronic hepatitis in long term can develop into cirrhotic hepatic. Hyperfibrinolysis, marked by increasing D-dimer level, enhance bleeding occurence. D-dimer level in chronic hepatitis and cirrhotic hepatic need to be measured and analyzed the difference.

Objective: To determine the difference of D-dimer level between chronic hepatitis and cirrhotic hepatic.

Methods: A cross sectional study was conducted on each 16 chronic hepatitis and cirrhotic hepatic patients in Goverment Hospital of Semarang City, Telogorejo Hospital and Kariadi Hospital during March 2014 to May 2014. D-dimer level was measured by latex enhance turbidimetric method. Mann Whitney test was applied to analyze the difference of D-dimer level between chronic hepatitis and cirrhotic hepatic.

Results: Median of D-dimer in chronic hepatitis was 190±82,30 µg/L and cirrhotic hepatic was 4860±57,17 µg/L. There was significant difference of D-dimer level between chronic hepatitis and cirrhotic hepatic (p=0,00).

Conclusion: There was significant difference of D-dimer level between chronic hepatitis and cirrhotic hepatic.

Keywords: *D-dimer, chronic hepatitis, cirrhotic hepatic*

ID 2-02

CD14/CD69 Monocyte as a Chronic Inflammation Marker in Iron Overload Pediatric Major β-thalassemia

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ABSTRACT

Introduction: Regular blood transfusion for β-thalassemia patients is a life-saving therapy, hence, it results in iron overload lead to immune dysregulation triggered by chronic activation of immune system. This fundamental notion contributes to their morbidity and mortality. Monocyte plays a critical role in regulating and bridging innate to adaptive immunity. Our pilot study analyzed the presence of activation markers, CD14 and CD69, on monocyte of major β-thalassemia patients associated with their iron status.

Method: Fifty pediatric β-thalassemia patients routinely visited thalassemia clinic for clinical examination and blood transfusion were involved in this cross-sectional study. Flow cytometry applying antibody of CD14, HLA-DR, CD69 was used to dissect $CD14^+CD69^+$ monocytes from lysed-erythrocyte heparinized whole blood and defined as cell percentage also median fluorescent intensity (MFI) of CD69 of $CD14^+CD69^+$ monocytes. Iron status was indicated by ferritin and serum iron level. A correlation study was done.

Results: We found 87.4% (76.1 – 91.4) CD14+CD69+ of dissected monocytes from iron overloaded pediatric β-thalassemia patients (Ferritin level: 3118 µg/L), 1675 – 9718. Positive correlation was found between percentage of $CD14^+CD69^+$monocytes and ferritin level (r = 0.3, P = 0.04).

Conclusion: Considering the function of CD14 and CD69 on monocyte and the iron accumulation, our result may implicate that pediatric major β-thalassemia patients have a tendency towards chronic inflammation. Future direction for research of our study aimed at discovering collateral activation of immune cells via monocyte to explain organ damage caused by iron overload is imperative.

Keywords: *Monocyte, CD14, CD69, iron, β-thalassemia*

ID 2-03

Robusta Coffee Beans Increased Level Of IL-1β (Interleucine-1β) Monocytes Against To Streptococcus mutans In Vitro

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ABSTRACT

Introduction: Several studies have proven that coffee beans can inhibit S. mutans growth. Coffee beans suspected potentially influence immune response to S. mutans. The immune response to S. mutans among others fagositosis, IL-1β, IL-1α and TNF-α. Purpose this result is analyzing modulation of IL-1β robusta coffee beans against S. mutans.

Method: Peripherial blood sampling of healthy people as much as 6 cc then mixed with anticoagulants (heparin). Ficoll-Hypaque centrifugation were suspended in medium RPMI 1640. The cells are placed on a microtiter plate and washed 4 times with medium. Furthermore, monocytes obtained treated in accordance groups. The control group (K: untreated). KP1: monocytes + S. mutans. KP2: monocytes + coffee 2.5% + S. mutans. KP3: monocytes + Coffee 5% + S. mutans, KP3: monocytes + Coffee 10% + S. mutans. After incubated 24 hours. Supernatant was taken for analysis of IL-1β by ELISA technique. Data were analyzed using ANOVA followed by LSD test.

Results: There were significant differences across all study groups. Robusta coffee beans steeping most increased level of IL-1β, where the higher the concentration, the more elevated the levels of IL-1β.

Conclusion: Robusta Coffee Beans Steeping Increased Level Of IL-1β monocytes against to Streptococcus mutans in vitro.

Keywords: *coffee beans ; dental caries ; S. mutans ; IL-1β*

ID 2-04

Roles of Infection Prevention and Control Nurses (IPCNs in Preparing for Emerging Infectious Diseases

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ABSTRACT

Background: Infectious diseases have become one of the world's serious problems including in Indonesia. Infectious diseases can originate from the community and hospital environment. Health workers performing inappropriate medical procedures could also be a cause of transmission of infectious diseases. Infection prevention and control nurses (IPCNs) as the pioneers of prevention and infection control in hospitals have not optimally played their roles.

Objective: This study aimed to explore the roles of IPCNs and their constraints in preparing for emerging infectious diseases.

Methods: The present study employed a qualitative design with the hermeneutic phenomenological approach. The samples were seven IPCNs for the primary participants, and two Infection Prevention and Control Officers (IPCOs) and 13 Infection Prevention and Control Link Nurses (IPCLNs) as the triangulation participants. The data were collected using in-depth semi-structured interviews analyzed using a content analysis technique.

Results: The results identified two themes: (1) IPCNs played roles as clinical practitioners, activity coordinators, administrators, and educators, and (2) the roles of IPCNs had not been optimal due to the lack of support from the hospital management, insufficient infrastructure, weak monitoring and evaluation, and the unavailability of appropriate rewards and punishment.

Conclusion: The majority of participants in this study agreed that IPCNs had tried well to play their roles. However, various obstacles were encountered, which hindered the IPCNs in performing their roles.

Keywords: *IPCN; infectious diseases*

ID 2-05

Correlation between HPV Vaccination and Cervical Cancer Incidence in Southeast Asian Population

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ABSTRACT

Human Papillomavirus (HPV) is the most common sexually transmitted disease of genital tract that may cause cervical cancer, the second most frequent type of cancer in South East Asia. By far, HPV vaccination is widely used for risk reduction; however, the rate of developing cervical cancer post-vaccination is still not well-studied. The aim of this study is to evaluate the association between HPV vaccination and development of cervical cancer in Southeast Asia. Analysis of data on HPV vaccination in Southeast Asia was performed, based on literature from 2010 to 2016 accessible in PubMed, Google Scholar, and ScienceDirect. Vaccination coverage rates and changes in cervical cancer incidence in particular countries were subjected to comparative analysis using Pearson's correlation coefficient. The statistical analysis showed HPV vaccination coverage and cervical cancer incidence has negative correlation but not significant ($r=-0.04$, $p>0.05$.This might due to HPV vaccination introduction is still at early stage (<10 years of implementation. In addition, 5 out of 9 countries are running the vaccination program as pilot project rather than nationwide program. Other factors may also influence the incidence of cervical cancer such as: genetics and lifestyle factor, socioeconomic status as well as having many children. Nevertheless, follow up study is needed to assess effect of HPV vaccination introduction and coverage to cervical cancer incidences in Southeast Asian countries.

Key words: *Cervical Cancer, HPV, Southeast Asia, Vaccine*

ID 2-06

The Identification of Antibiotics-Resistant Bacteria Isolated from Cijantung and Cibuluh Stream flows of Ciliwung River in Jakarta and Bogor

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ABSTRACT

Introduction: In Indonesia, river is a dependable source of water for human activities. River can be reservoir for antibiotic-resistant bacteria. The antibiotic resistance can spread and get transmitted into human, increasing risk of bacterial infection treatment failure. Thus, the aim of this study is to investigate the presence of antibiotic-resistant bacteria from two streamflows of Ciliwung river, Cijantung and Cibuluh.

Methods: Isolation of two different bacteria morphologies was obtained from growing samples on EMB agar. A single colony from respected group was confirmed by Gram staining and IMVIC test, followed by MIC microdilution test towards ampicillin, amoxicillin, chloramphenicol, and tetracycline.

Results: Our results indicate that from 6 tested colonies, colonies A and F were resistant to tetracycline and amoxicillin; colony B was resistant to tetracycline; colony E is resistant to all tested antibiotics; colonies C and D were susceptible to all tested antibiotics.

Conclusion: The highest occurrence is resistance to tetracycline (66.7%) of tested colonies. Resistance was observed in all antibiotics tested. Antibiotic resistance was only found in Cibuluh, the downstream part of Ciliwung. Further study is required to identify the species and the mechanisms of antibiotic-resistant bacteria at different Ciliwung river streamflow.

Keywords: *antibiotics-resistant bacteria, river, Gram negative*

ID 2-07

Analysis of the risk of shunt failure or infection related to cerebrospinal fluid cell count, protein level, and glucose levels in hidrocephalus patients

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ABSTRACT

Introduction: There is anecdotal evidence that the amount of red blood cells or protein levels in the CSF may affect shunt performance. However, this has not been analyzed specifically for this cohort of high-risk patients. Therefore, the authors performed this study to examine whether any statistical relationship exists between the CSF constituents and the rate of shunt malfunction or infection in this population.

Methods: A retrospective cohort study was performed on ventrivuloperitoneal procedur at Kariadi Hospital from 2010 to 2015. Data points included age at shunt insertion, shunt failure, shunt infection, and the levels of red blood cells, white blood cells, protein, and glucose in the cerebrospinal fluid (CSF). Statistical analysis was performed to determine any association between shunt outcome and the CSF parameters.

Results: Five hundred and thirdtheen procedurs were performed. Twentyfive cases (0.2%) had primary shunt failure. There was statistical relationship between shunt malfunction or infection and the CSF levels of white blood cells(0.043, protein level (0.007), or glucose(0.000) before shunt insertion.

Conclusions: This review clarified association of shunt failure or infection with CSF cell count, protein level, or glucose level. Therefore, it may be useful to base the timing of shunt insertion on CSF parameters.

Keywords: *shunt malfunction, cerebrospinal fluid, white blood cells, protein, glucose*

ID 2-08

The Effects of Melatonin to the Level of Lactate Acid in the Wistar Rats Model of Sepsis

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ABSTRACT

Introduction: Sepsis causes an increase in lactic acid through the anaerobic glycolysis pathway caused by tissue hypoxia. Melatonin is an antioxidant therapy that may reduce lactic acid levels, however its roles for sepsis therapy still need further investigation. This study was aimed to observe the effects of melatonin to the level of lactate acid in the Wistar rats model of sepsis.

Method: This was an animal experimental study with a randomized control group using pre- and post-test design. Twelve male Wistar rats were intra-peritoneally injected with 2 mg lipopolysaccharide (LPS) per 200 grams rats and then divided into two groups. The experimental group was orally administered with 4 mg melatonin per 200 grams rats, while the control group was administered with placebo (aquadest). All rats were examined for the levels of lactate acid from the retro-orbital blood vessel sampling in the 6 hours after intra-peritoneally LPS injection (T0), 1 hour (T1) and 2 hours after melatonin administration (T2).

Results: There was no significant difference in the levels of lactate acids between the control and the experimental group after 1 hour (T1 (13,37±3,03 vs 12,2±5,79), p=0,671 and 2 hour melatonin administration (T2 (16,62±1,53 vs 11,8±6,95), p=0,153. There were significance increases in lactic acid levels in the control group after T2 in comparison to T0 (16,62±1,53 vs 13,43±1,53) (p=0,001) and after T2 in comparison to T1 (16,62±1,53 vs 13,37±3,03) (p=0,005). Whereas in the experimental group, there were no significant increases in lactic acid levels levels after T1 (12,2±5,79 vs 9,23±2,46), p=0,156 and T2 (11,8±6,95 vs 9,23±2,46), p=0,311 in comparison to T0, as well as after T2 in comparison to T1 (11,8±6,95 vs 12,2±5,79), p=0,874. Moreover, there was a decrease in lactic acid levels in the experimental group after T2 in comparison to T1 (11,8±6,95 vs 12,2±5,79), although it was not significant (p=0,874).

Conclusion: Melatonin treatment alone could prevent the elevation of lactic acid levels in Wistar rats sepsis model and might decrease the levels of lactate acid.

Keywords: *sepsis, lactate acid, melatonin, lipopolysaccharide*

ID 2-09

The Effects of Melatonin on Leukocyte and Platelet Count in the Wistar Rats Sepsis Model

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ABSTRACT

Introduction: Systemic inflammatory response syndrome (SIRS) in sepsis may lead to disseminated intravascular coagulation (DIC) which also effects the coagulation cascade and the platelet count. Melatonin is thought to ameliorate immune response, cytoprotective process, and resist bacterial, viral, and parasites infections through immunomodulations and antioxidant activities. Melatonin decreases the levels of inflammation cytokines, oxidative stress, and mitochondrial dysfunction, however its role for sepsis therapy still need further investigation. This study was aimed to observe the effect of melatonin on the leucocyte and platelet count in the Wistar rats sepsis model.

Method: This was an animal experimental study with a randomized control group using pre- and post-test design. Twelve male Wistar rats were intra-peritoneally injected with 2 mg lipopolysaccharide (LPS) per 200 grams rats and then divided into two groups. The experimental group was orally administered with 4 mg melatonin per 200 grams rats, while the control group was administered with placebo (aquadest. All rats were examined for the leucocyte and platelet count from the retro-orbital blood vessel sampling in the 6 hours after intra-peritoneally LPS injection (T0), 1 hour after melatonin administration (T1) and 2 hours after melatonin administration (T2).

Results: There was no significant difference in leucocyte count between the control and the experimental group in T0 (11.150±2.200 vs 10.580±2.460), $p=0{,}683$. There were significant differences in leucocyte count between the control and the experimental group after T1 (13.220±2.450 vs 9.720±2.050), $p=0{,}023$ and T2 (14.500±2.480 vs 10.420±2.300), $p=0{,}014$.

Whereas there were no significant differences in platelet count between the control and the experimental in T0 (185.500±84.979 vs 204.670±118.454), $p=0{,}754$, after T1 (149.170±61.464 vs 164.330±93.058), $p=0{,}746$ and after T2 (126.670±54.346 vs 133.830±71.670), $p=0{,}849$. There were significant increases in leucocyte count in the control group after T1 (13.220±2.450 vs 11.150±2.200), $p=0{,}035$ and T2 (14.500±2.480 vs 11.150±2.200), $p=0{,}008$ in comparison to T0, as well as between T2 and T1 (14.500±2.480 vs 13.220±2.450), $p=0{,}002$. There were no significant increases in leucocyte count in the experimental group after T1 (9.720±2.050 vs 10.580±2.460), $p=0{,}393$ and after T2 (10.420±2.300 vs 10.580±2.460), $p=0{,}892$ in comparison to T0, as well as between T2 and T1 (10.420±2.300 vs 9.720±2.050, $p=0{,}198$. There were significant decreases in platelet count in the control group after T1 (149.170±61.464 vs 185.500±84.979), $p=0{,}037$ and T2 (126.670±54.346 vs 185.500±84.979), $p=0{,}008$ in comparison to T0, as well as after T2 in

comparison to T1 (126.670±54.346 vs 149.170±61.464), *p*=0,007. The similar significant decreases in platelet count occurred in the experimental group between T2 in comparison to T0 (133.830±71.670 vs 204.670±118.454), *p*=0,024 and between T2 in comparison T1 (133.830±71.670 vs 164.330±93.058), *p*=0,031. There were significant differences in the increasing range of leucocyte count from T0 to T1 (ΔT1-T0 (1,8 (0,7–5,5 vs 0,4 (3,7–1,3)), *p*=0,043 and from T0 to T2 (ΔT2-T0 (2,6 (2,1–7,2 vs 0,6 (4,7–2,8)), *p*=0,025 between the control group in comparison to experiment group. There were no significant differences in the decreasing range of platelet count from T0 to T1 (ΔT1-T0 (36.330±31.488 vs 40.330±45.081)), *p*=0,862 and from T0 to T2 (ΔT2-T0 (58.830±33.546 vs 70.830±53.946)), *p*=0,653 between the control group in comparison to experiment group.

Conclusion: Melatonin treatment alone could prevent the increases of leucocyte count, but could not prevent the decreases of platelet count.

Keywords: *sepsis, leucocyte count, platelet count, melatonin, lipopolysaccharide*

ID 2-10

Prevalence and Risk Factors Toxoplasmosis in Semarang

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ABSTRACT

Introduction: *Toxoplasma gondii* infection may lead fetal pathological defect in pregnant women. It is important to determine several risks factor to prevent this effects. There is no data about *Toxoplasma gondii* prevalence in Semarang. This study aimed to assess the prevalence and risks factors involved in human toxoplasmosis infection in Semarang.

Method: This study was consists of samples from rural and urban area in Semarang. Blood samples were collected from women patients in rural dan urban public health centre, who also answerred a risk factor questionnaire. Serum samples were analyzed by ELISA methods for the detection of Ig G Toxoplasma gondii.

Results: From 90 samples collected, some were positive. Prevalence of infection in rural community was higher than urban community. Some of the studied variables (agriculture practice, keep cats inside home) was associated with the prevalence of infection.

Conclusion: In one or two sentences summarize the basis of the findings; take home message and the prospective study. We were able to conclude that positive prevalence of antibodies in Semarang was high. The prevalences in rural area was higher than urban.This was associated with the risks factor studied.

Keywords: *Toxoplasma gondii, prevalence, risk factor, semarang*

ID 2-11

The Affects Of Spiritual Psychoeducation For Perinatal Stress And Depression Symptom On Primigravida

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ABSTRACT

Objective: This preliminary study was aimed to explore the effect of spiritual dhikr for perinatal stress and depression symptom on primigravida.

Methods: This study was pretest posttest controlled group trial design, conducted in Community Health Centers setting in Klaten Central Java Indonesia. A number of 57 participants completed the Perceived Stress Scale (PSS) and the Edinburgh Postnatal Depression Scale (EPDS). Perceived stress and depression symptoms measured at baseline and one week before due date.

Results: The results showed a decrease of mean score of PSS from 24.43 in pretest to 20.60 in posttest in the intervention group, whereas in the control group there was an increase of mean score of PSS from 24.26 in pretest to 27.37 in posttest (p=.0001). In the intervention group there was a decrease in mean of EPDS score from pretest to post test, that was 9.37 to 8.20, while in the control group there was an increase of EPDS score from 9.26 in pretest to 10.15 in posttest (p=.004).

Conclusion: This study found a stress level reduction and depressive symptoms in pregnant women who received routine midwifery care intervention plus spiritual dhikr. The results of this study support previous research that the links of religiosity and spirituality with better mental health especially for pregnant women.

Key words: *stress, depression, spiritual dhikr*

ID 2-12

The effects of acute stress on primary immune response of hepatitis B vaccination. Study in Wistar albino rats

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ABSTRACT

Background: Infection with Hepatitis B virus is a worldwide healthcare problem. Hepatitis B vaccine is the most efficient way to prevent Hepatitis B virus infection and its complications. Acute-stress may have a positive effect on innate immune response, especially to vaccination.

Objectives: To study the impact of acute-stress on the innate immune response to hepatitis B vaccinated rats.

Methods: A pre-and post-test design was conducted using twelve Wistar Albino male rats aged 8 to 10 weeks. Rats were allocated into two vaccine groups: acute-stress group and control group. Following a one-week adaptation period, rats were immunized with 4µg hepatitis B vaccine, two doses interval four weeks.

Results: Rats given two doses of vaccine with two periods of acute-stress had an increased macrophage number and macrophage phagocytosis index. The macrophage number was (0.51 ± 0.038) in control group and (0.90 ± 0.025) in intervention group, ($p = 0.001$). The macrophage phagocytosis index was (3.42 ($3.21 - 3.90$)) in control group and (5.75 ($5.57 - 6.81$)) in intervention group, ($p = 0.004$).

Conclusion: Acute-stress has immunoenhancing effects, particularly on macrophage cells.

Keywords: *Acute-stress, Macrophage Phagocytosis Index. Hepatitis B vaccine.*

ID 2-13

IL-6 Level in Patient with Reversal Reaction of Leprosy

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ABSTRACT

Background: Reversal reaction (RR) is an episode of acute inflammation in the chronic course of leprosy which often contributes to treatment incompliance and sequelaes. Previous studies have shown increased level of IL-6 in patients with RR compared to patientsnon-reactional leprosy (non-RR). IL-6 plays role in stimulating T lymphocyte, contributing to B lymphocyte production and antibody production via Th2-cell-mediated immune response.

Objective: To understand the IL-6 level in reversal reactionof leprosy and non-reactional leprosy.

Methods: 56 leprosy patients consist of 28 reversal reactions patients and 28 non-reactional leprosy were assessed for level of IL-6 in mast cell by immunohistochemistry staining. The IL-6 levels in both groups were analyzed using independent samples T test.

Results: There was a significant difference of IL-6 levels in both groups ($p < 0.05$).

Conclusion: IL-6 level is associated with reversal reaction of leprosy.

Keywords: *multibacillary leprosy, reversal reaction, IL-6*

ID 2-14

Histamine Level In Patient With Reversal Reaction Of Leprosy

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ABSTRACT

Background Reversal reaction of leprosy is an acute episode of leprosy that caused by an inflammatory reaction, consequently leading to deformity and disability. The level of histamine in reversal reaction is still little known.

Objective To understand the histamine level in reversal reaction patients dan non-reactional leprosy patients (non-RR)

Methods 56 leprosy patients consist of 28 with reversal reactions and 28 non-reactional leprosy were assessed for level of histamine in mast cell by immunohistochemistry staining. The histamine levels in both groups were analyzed using independent samples T test.

Results There was a significant difference of histamine levels in both groups ($p < 0.05$).

Conclusion Histamine level is associated with reversal reaction of leprosy.
Keywords: multibacillary leprosy, reversal reaction, histamine

ID 2-15

TNF-α Level In Leprosy Patients With Reversal Reactions

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ABSTRACT

Objective : To examine the TNF-α level in reversal reaction patients (RR) and non-reactional leprosy patients (non-RR).

Methods : 56 leprosy patients consist of 28 with reversal reactions and 28 non-reactional leprosy were assessed for level of TNF-α in mast cell by immunohistochemistry staining. The TNF-α levels in both groups were analyzed using independent samples T test.

Results : TNF-α level was significantly increased in the reversal group ($p < 0.05$).

Conclusion : TNF-α level is associated with reversal reaction of leprosy.

MeSH word : leprosy, TNF-alpha

ID 2-16

4G/5G Plasminogen Activator Inhibitor-1 Polymorhisms and Leptospirosis

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ABSTRACT

Introduction: Leptospirosis mimics gram negative bacterial infection. The clinical picture varies from mild to severe illness as a sepsis with bleeding tendency and multiorgan failure. Activation of inflammation and the pro-coagulation and anti-fibrinolytic pathway lead to microvascular fibrin deposition, resulting multi-organ failure. Plasminogen activator inhibitor-1 (PAI-1) is important in inhibition of fibrinolytic. Elevated levels of PAI-1plasma have been reported in leptospirosis. The 4G/5G insertion/deletion promoter polymorphism related to high levels of PAI-1 and increased severity of disease.

Objective: to study the relationship between 4G/5G polymorphism of PAI-1 gene and the severity of leptospirosis.

Methods: the study was a cross sectional. We used the archieved samples of confirmed MAT of - leptospirosis patients (WHO-SEARO 2009 criteria) of Kariadi Hospital, Semarang, Indonesia. Plasma concentrations of PAI-1 were measured using ELISA kit on admission (ElabscienceR). The DNA was extracted using salting-out method. The 4G/5G PAI-1 polymorphism was genotyped by polymerase chain reaction-restriction fragment length polymorphism method. The data were analysed by MannWhitney U test, Hardy-Weinberg equilibrium for allele frequency and chi-square test.

Results: Forty-two leptospirosis patients were included, consisted of male 38.0% and the mean of age was 45.29 (±SD 13.86) years. Thirty-one patients (39.2%) were severe leptospirosis, while 11 (13.9%) were mild. The median value of PAI-1 levels plasma of mild vs severe leptospirosis were [0.048 (IQR 0.311) vs 0.177 (IQR 0.0988)] ; p= 0.019. The frequency of 4G : 5G alleles between two groups were (59.09 : 50.0% vs 40.91 : 50%) . There were no relationship between 4G alleles and severity of leptospirosis (p=0.759). The distribution of PAI-1 gene polymorphisms between two groups were: 4G/4G (34.92 : 25%); 5G/5G (16.74 : 25%) and 4G/5G (48.35 : 50%) ; p= 0.732. There were no relationship between 4G/5G PAI-1 Polymorphisms and severity of leptospirosis (p=0.859 ; OR 1.1 [95% CI 0.346-3.564])

Conclusion: Our study found that the 4G/5G PAI-1 polymorphisms were not associated with the severity of leptospirosis.

Keywords: *PAI-1 levels plasma, 4G/5G PAI-1 Polymorphisms and Leptospirosis*

HN 1-01

The effect of monitoring educational program on fluid limitation adherence in patient undergoing hemodialysis using mobile technology

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ABSTRACT

Introduction: Fluid restriction is the most important determinant of successful hemodialysis program. Nonadherence in patient undergoing hemodialysis account for 30-74%. The exact intervention is needed to overcome the nonadherence. Intervention that we can use with technology based on android apps. The aim is to know the effect of monitoring educational program for fluid restriction adherence in patient undergoing hemodialysis via mobile technology.

Methods: Experimental pre and post-test non-equivalent control group design were used with 18 respondents in both experimental and control group. Intervention was given to respondent for 5 weeks with 2 sessions in every week and about 15 minutes for one session. Adherence measurement was done with intradialytic weigh gain (IDWG). Intervention was taught and requested to the respondent to use kidney fluid restriction to do fluid restriction.

Results: There is difference mean IDWG between experimental and control group after intervention with p value 0,03 and different mean IDWG within pre and post intervention in experimental group with p value 0,00. Mean IDWG was reduced in experimental group after intervention.

Conclusion: Reduce of IDWG can make patient doesn't have problem with their physical condition. The use of kidney fluid restriction apps in mobile phone can increase fluid restriction adherence in hemodialysis patients.

Phenomenology Study : Analysis Of Support Group Holistic Needs Among Patient With Chronic Kidney Disease And Family At Hemodialysis Unit In Semarang Central Java

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ABSTRACT

Introduction: The End Stage of Renal Disease (ESRD) or Chronic Kidney Disease (CKD) will affect to changes sufferers' life. The changes experienced will alter their physical, psychological, social, and spiritual aspects. In addition, hemodialysis therapy that is given to patients in their long life will affect to their quality of lives. Social support is very essential for CKD patients undergoing hemodialysis (support from group and family). Social support can be given as an emotional support, esteem support, informational support, instrumental support, and companionship support. This support can be facilitated through Support Groups Holistic Therapy for patients and their families. The purpose of this research is to identify needs of Support Group Holistic Therapy among hemodialysis patients and families.

Methods: This study using phenomenology study design and recruited a sample of 12 participants with purposive sampling technique. Participants include of patients, family members, and health care team (nurse and doctor). Interview transcripts were analysis using Colaizzi methods.

Results: As a results, this study produce 7 themes : general patients conditions, patients' needs of support group holistic, family needs of support group holistic, constraints of families for caring hemodialysis patients, family support that given to patients with hemodialysis, health care services support to hemodialysis patients and families, and need for support group holistic therapy on perspective among health care teams.

Conclusion: Patients with hemodialysis and their family had an urgent need of holistic support group therapy because they had a complex problems (consist of physical, social, economy, and emotional problems). This support group therapy is able to empower the patients and their families. We recommend that the therapy be conducted in the hospital, facilitated by health care providers. The time and materials for discussion should be adjusted to the patients' hemodialysis schedule and their needs (patients and family.

Keywords: *Hemodialysis, Family, Support Groups Holistic, Chronic Kidney Disease*

HN 1-03

Implication of learning styles on learning process of nursing students

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ABSTRACT

Background: Learning process is conducted to help students to achieve competencies. Learning process is a unique process for every student. Some obstacles can be faced by students during the process, and it need to be solved. Most of students do not recognize their learning styles which will help them to pass their learning process. The objective of this research is to identify learning styles of nursing students and its implication on learning process.

Methods: Design of this research is a quantitative research. A VARK questionnaire is used to identify the learning styles of 4th and 6th semester of nursing students, and then it is analyzed using frequency distribution. The questionnaire can be accessed on www.vark-learn.com. In order to know the differences of learning styles between students of 4th semester and 6th semester, t-test is used.

Results: Participants are nursing students of 4th and 6th semester. There are 204 (108 students of 4th semester and 96 students of 6th semester from 223 students; response rate is 91%. Most of students have visual learning styles, around 80 of participants choose it as their learning styles. Furthermore only 45, 38 and 41 of participants prefer to have auditory, read-write, and kinesthetic learning styles respectively. However, there are no difference between learning styles of 4th semester and 6th semester of nursing students (α = .052). Learning styles can be varied depends on students' preference, and learning styles affect students on how they decide their learning method and achieve the competencies.

Suggestion: It is suggested that learning styles should be identified in the beginning of semester, and the result should be referred to the mentors. It will be easier for students and mentors to conduct their roles on learning process.

Keywords: *learning styles, learning process, nursing students*

HN 1-04

Effects of mindfulness with Gayatri mantra on decreasing anxiety in the elderly

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ABSTRACT

Background: Anxiety is one of the psychological problems which develop in the elderly. If left untreated, anxiety can decrease the productivity and quality of life. Mindfulness with Gayatri mantra is such a complementary therapy which is effective to reduce anxiety in the elderly. The purpose of this study was to analyze the effects of mindfulness with Gayatri mantra on decreasing anxiety in the Hindu elderly in Bali, Indonesia.

Methods: This study used a one group pre and posttest quasi-experimental design. The samples were 34 elderlies, who were recruited using purposive sampling. Anxiety was measured by the instrument of the Geriatric Anxiety Scale (GAS). Data were analyzed using the statistical analysis of t-test.

Results: Results showed that there were significant effects of mindfulness therapy with Gayatri mantra on decreasing anxiety in the Hindu elderly in Bali with a p-value of 0.000 (α-value = 0.05).

Conclusion: Mindfulness therapy with Gayatri mantra decreased anxiety in the Hindu elderly. This therapy could be recommended as an alternative therapy to prevent the recurrence of anxiety in the elderly.

Keywords: *Anxiety and the elderly, mindfulness, Gayatri mantra*

HN 1-05

Effects of physical-cognitive therapy on increasing physical and cognitive functions in critical patients at Intensive Care Unit

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ABSTRACT

Introduction: Critical patients with impaired physical and cognitive functioning in the Intensive Care Unit (ICU) may have an impact that worsens and weakens the function of other organs, increases the length of treatment, decreases in organ function, muscle contractility, function and pain capacity, fatigue, and impaired mental health, Inability to perform activities and use of instruments in everyday life. The objective of this research was to analyze the Effects of Physical-Cognitive Therapy on Increasing Physical and Cognitive Functions in Critical Patients at Intensive Care Unit.

Methods: The design of this research was Randomized controlled trial (RCT). Population was the critical patients at ICU Kediri Baptist Hospital. The samples were 64 respondents based on inclusion and exclusion criterion on randomize sampling and single blind. Intervention conducted the first 24 hours of admission to the ICU for 3 days with duration 20 minutes and re-done after the patient was discharged from the ICU. The independent variable was Physical -Cognitive Therapy and the dependent variable ware physical function and cognitive function. The data was collected using Physical Function ICU Test (PFIT) and Mini-Mental State Examination (MMSE. It was analyzed using Wilcoxon test and Mann-Whitney test with significant level ($\alpha \leq 0.05$).

Results: The results of this research are there significant effects of physical-cognitive therapy on Increasing Physical ($\rho = 0,000$) and cognitive functions ($\rho = 0,000$) in critical patients at Intensive Care Unit. The results showed that there were significant differences in physical function and cognitive function between the intervention group ($\rho = 0,000$) and control Group ($\rho = 0,000$) in Critical patients at ICU.

Conclusion: There was significant effects of physical-cognitive therapy on increasing physical functions and cognitive functions in critical patients at Intensive Care Unit. Critical nurses can use physical-cognitive therapy to prevent impaired physical function and cognitive function in critical patient in ICU.

Keywords: *Physical-Cognitive Therapy, Physical Function, Cognitive Function, Critical Patient, ICU*

HN 1-06

Effects of engineered stimulation of oxytocin on hormonal status of postpartum women

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ABSTRACT

Introduction: Oxytocin in the postpartum women is very necessary to maintain breastmilk production. An engineered stimulation of oxytocin by using a tool in a previous study was evident to give effects on the production of breast milk. The purpose of this study was to analyse the effects of an engineered massage tool for stimulating oxytocin on the levels of oxytocin, prolactin and beta-endorphin in the postpartum women.

Methods: Quasi-experimental study employed a post-test with control group and was conducted in two hospitals in Semarang. A consecutive sampling was used to recruit the samples, involving 32 postpartum women in the control group, 26 in the intervention group I (intervention once-daily) and 30 in the intervention group II (intervention twice-daily). After 9 hours 30 minutes since the labour, the blood samples from the postpartum mothers were taken and examined for the oxytocin, prolactin, and beta-endorphin.

Results: The results showed a mean of 353.58 ng/ml for oxytocin, 231.41 ng/ml for prolactin and 178.75 ng/ml for beta-endorphin. There was a significant relationship between the frequency of breastfeeding and the prolactin (p=0.004), and there was also a significant relationship between the breast milk secretion and the prolactin (p=0.005). Beta-endorphin had a significant association with the oxytocin (p=0.000).

Conclusion: Furthermore, there was a difference in beta-endorphin levels between the groups given once-daily stimulation, twice-daily stimulation and the control group (p=0.041). The stimulation of oxytocin had an effect on the increase of beta-endorphin which indirectly affected the oxytocin.

Keywords: *Engineered oxytocin, postpartum women, oxytocin, prolactin, self-care*

HN 1-07

The return of a correctional tuberculosis nurse's professional values: a narrative study

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ABSTRACT

Tuberculosis (TB) is a main health problem in penitentiary institution as TB reservoir whereas its incidence higher than in the community. Correctional nurses' values influence nursing care in prisons particularly in enhancing prisoners' TB treatment completion. Limited study revealed a detail process of a correctional nurse in regaining her professional values particularly. This paper presented a story of regaining a correctional TB nurse's professional values. The study method was a narrative study conducted in a prison in Jakarta, Indonesia through a dialogue with between the researcher and the participant. The procedure was conducted based on Paulo Freire's method by investigating the background of present values and questioning the participant how it differed from the previous one. The findings narrates a story of regaining a correctional nurse's professional values from her previous one to the present including previous perceptions about current situation of TB care in the prison, background of the previous nurse-prisoner relationship, consequences of the interaction, ideal situation of nurse-patient relationship and the consequence, and consciousness as a nurse. The study recommends a mechanism to support professional nursing values for correctional nurse in providing TB care.

Keywords: *correctional nurse, narrative study, tuberculosis, professional value*

HN 1-08

Effects of ideal discharge planning on the quality of documentation implementation of patients with chronic kidney disease at internal wards

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ABSTRACT

Background: A well-programmed discharge planning can decrease the length of stay (LOS), the rate of hospital visit of patients with similar complaints, complications, reduced treatment costs and improve the copings, self-efficacy, quality of life, and independence of the patients, as well as the quality of nursing care. The implementation of discharge planning in patients with chronic kidney disease is very important since these patients have a high risk for repeated emergency conditions. Documentation of discharge planning is an indicator of the quality of nursing care provided by the nurses. IDEAL discharge planning is compromised of the key elements of Include, Discuss, Educate, Asses, Listen. This study aimed to analyze the effects of IDEAL discharge planning on the quality of documentation implementation of patients with chronic kidney disease.

Methods: This study employed a pre and posttest quasi-experimental design with a control group. The samples were 40 nurses and 44 documentations of patients with chronic kidney disease recruited by using a consecutive sampling. The samples were assigned to the intervention group (n nurses=20, n documentations=20) and control group (n nurses=22, n documentations=22). The data were collected through observations and analyzed using the Wilcoxon and Mann-Whitney tests.

Result: The statistical analysis of Wilcoxon showed that the mean of discharge planning documents of patients with chronic kidney disease before the implementation of the IDEAL discharge planning was 9.55, and after the implementation, the mean increased to 23.55 with a p-value of 0.000. Meanwhile, in the control group, the mean value before and after the implementation was 12.18 and 11.68 with a p-value of 0.002.

Conclusion: The results showed that the implementation of IDEAL discharge planning gave effects on the completeness of discharge planning documentation of patients with chronic kidney disease. Based on the findings, it is recommended for nurses practice IDEAL discharge planning and improve the quality of discharge planning documentations of patients with chronic kidney disease.

Keywords: *Documentation, IDEAL discharge planning, chronic kidney disease*

HN 1-09

Effects of SBAR communication through telephone on the improvement of effective communication in implementing the patient safety program

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ABSTRACT

Background: Effective communication is a communication that can be understood by both parties who receive and provide the information. Ineffective communication between nurse and doctor becomes one of the causes of sentinel cases. SBAR can be used for the standards of effective communication between nurses and physicians; one of which is by using telephone. This study aimed to analyse the effects of SBAR communication through the telephone on the improvement of effective communication in implementing the patient safety program in the hospital.

Methods: This study employed a pretest-posttest quasi-experimental design with a control group. The samples were 34 respondents recruited using the purposive sampling and were assigned to the intervention group (n = 17) and the control group (n = 17). The data were collected through the observations and analysed using the t-test.

Results: The effective communication in implementing the patient safety program before the intervention was 26.11, and after the intervention was 36.70, indicating an increase of 10.59. There were differences in effective communication between the intervention and control groups with a p-value of 0.001. The SBAR communication through the telephone improved the effective communication in implementing the patient safety program in the hospital.

Conclusion: The use of SBAR communication by phone is important, as a solution to maintain effective communication in patient safety implementation, and to improve the quality of hospital services.

Keywords: *Effective communication, patient safety, SBAR communication*

HN 1-010

Effects of coffee as oral hygiene media in patient with head and neck cancer on comfort level

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ABSTRACT

Introduction: The incidence of oral mucositis occurs as much as 75-100% in patients with head neck cancer undergoing radiotherapy. Mucositis causes discomfort in the mouth, inability to tolerate food or fluids (dysphagia) and decreased nutritional status. The treatment of mucositis was usually performed by giving an oral hygiene agent with antiseptic fluid and it's rarely done by using a coffee solution. The purpose of this study was to determine the effects of robusta coffee on the incidence of mucositis and comfort level.

Methods: This study used a pre and posttest quasi-experimental design with a control group. The samples were 16 patients in the control group and 16 patients in the intervention group selected by purposive sampling. The intervention was in the form of oral hygiene using robusta coffee mixed with plain water. The data were taken for 5 days using WHO's mucositis instrument and comfort level with Verbal Rating Comfort Scale.

Results: The results showed that the majority of respondents were of middle adult (68.9%), male gender (62.5%), undergoing radiotherapy for 16-20 times (37.7%), and having an underweight nutritional status (56.2 %). The average degree of mucositis prior to oral hygiene using coffee in the intervention group was 3, and the mean degree of mucositis after the intervention was 2. The patient's comfort level before the intervention had an average grade of 5.4, and after the intervention, the mean value was 6.4. There were effects of oral hygiene with coffee in cancer patients on the incidence of mucositis and comfort level with a p-value <0.05.

Conclusion: Oral hygiene using robusta coffee solution could reduce the degree of mucositis and increased comfort level.

Grocery store tour to promote a healthy food for schoolchildren

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ABSTRACT

Introduction: Meet the needs of a good nutrition to children allows them to growing optimally. Children should had ability to choose a healthy food to form a healthy diet behaviour in them. Supermarkets are often used as a proxy for healthy food access because of the variety and healthfulness of food available. Grocery store tour as an intervention for introducing the variety of food to children with pleasing.

Method: Quasi experiment without control group was performed for this study. Respondent are schoolchildren in 1st and 2nd grade of elementary school, with total was 138 respondents. Descriptive analysis used to seen the differences healthy food choose between before and after intervention. Paired t-test was used to analyse the effect of intervention.

Results: Obtained before intervention respondents least knows that the benefits of consumption of meat (24.63%) and the highest know benefits fruits and vegetables for health (98.55%). After intervention showed increased attitude of healthy food and drink choices, including fruit and vegetable as a provisions school food. There was an effect of grocery store tour to attitude of healthy food choices in children (p=0.000).

Conclusion: Children can be taught to behave a healthy food consumption with involving them to choose their own food. With grocery store tour activity open opportunity of learning to choose the healthy food by them own. For the future study can include the parents to this activity.

Keywords: *Grocery Store Tour, Healthy Food, Schoolchildren*

HN 1-012

The effects of self-management towards psychosocial adjustment chronic kidney disease patients with hemodialysis

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ABSTRACT

Introduction: Patients with chronic kidney disease experience health problem due to impaired the renal function and should undergo regular hemodialysis therapy. They need psychosocial adaptation with respect to their illness. The research objective is to investigate the effect of self-management therapy towards psychosocial adjustment in patients with chronic kidney disease undergoing hemodialysis.

Methods: The method used is quasi experiment. The design used was pre-test and post-test with control group design. This study used purposive sampling with 32 patients with chronic kidney disease. The treatment provided is self-management therapy in patients with chronic kidney disease during 8 times therapy at the hospital. The data collection used is questionnaire Pasychosocial Adjustment to Illness Scale (PAIS).

Results: Result of research showed that the ability of psychosocial adjustment patients on pre-test had mean value ($\bar{x}$ PAIS: 103.12) to increase in post test with mean value ($\bar{x}$ PAIS: 141.81). Based on *Wilcoxon test* results obtained p value = 0.000, so that there is significant influence of *self-management* to the ability of *psychosocial adjustment*. Furthermore, a different test of *Mann Whitney* obtained p value = 0.043, then there is difference between intervention and control group.

Conclusion: The ability of psychosocial adjustment of patients increases after participating self management. The engagement between patient, family and nurse during self management therapy can improve the patient's psychosocial adjustment as respond the changes in health status.

Keywords: *Psychosocial Adjustment, Self-Management, Hemodialysis*

HN 2-01

Psychosocial associated and predictors of post stroke depression 3- 6 months after onset: A systematic Review

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ABSTRACT

Introduction: The aim of study was to investigate the psychosocial factor and predictor associate with post stroke depression 3 until 6 months after onset.

Methods: The Database search included Medline, Academic Search Complete, CINAHL, Psychology and Behavioural Sciences Collection. The search was limited to articles written 2005 and 2017. The subject is ischemic stroke 3 until or 6 months after onset. All articles were assessed for eligibility using the Critical Appraisal Skills Program (CASP) evaluation method.

Results: There are 89 articles related. The articles were elicited with the criteria inclusions. Eighteen articles related with criteria. Nine articles eligible in the study. The presence of post stroke depression was ranged. The Psychosocial which are related post stroke depression are female gender, education, trouble paying bill, past history of depression, Depressiveness at 8 weeks, stress full life event exposure in the month preceding stroke, stress of health, acceptance resignation and avoidance, social support and family stress.

Conclusions: Psychosocial associated and predictor of post stroke depression should be treated. The psychological should be considered as an integrated treatment with medical treatment as well.

Keywords: *Psychosocial, Post Stroke Depression*

HN 2-02

Developing a community-based health education program for tuberculosis care and prevention

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ABSTRACT

To explore strategies for developing a community-based health education program for Tuberculosis (TB) care and prevention to reduce the incidence and stop the spread of TB in the community. A qualitative design was adopted that used focus group discussions to collect data. The participants included community health volunteers, and TB patients and their family members in two regencies of Bandung City, West Java Indonesia. A thematic analysis was used to analyse the data. Four major themes should be considered in developing a community-based TB health education program: (i) informing community health volunteers about the benefits and difficulties of being a TB volunteer; (ii) recognizing the activities and feelings of volunteers; (iii) identifying strategies to recruit new volunteers; and (iv) the accessibility of the TB training. To develop a community-based health education program for TB care and prevention, community nurses need to listen to the opinions of community health volunteers, and TB patients and their family members to ensure that the health education program is tailored to meet community needs.

Keywords: *community health volunteers, Tuberculosis, health education.*

HN 2-03

Build a Academic Achievement Of Nursing Student By Reduce Anxiety Through Spiritual Mindfulness; A Systematic Review

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ABSTRACT

Background: Anxiety and stress in nursing students has been shown to result in a lack of concentration, reduced learning productivity, and unfavorable physiological effects. This can cause a bad risk to the academic process of nursing students. A positive coping mechanism to reduce anxiety can be performed through various mindfulness training to support the academic success of nursing students. This study aimed to describe the influence of mindfulness on decreasing anxiety in nursing students to support academic learning.

Method: This study is a literature review. Data were collected through the online databases of EBSCO, PubMed, and ScienceDirect. The articles used in this study were determined to be published in 2010 to 2017. The key words used in searching for the articles were mindfulness, mindfulness in nursing students, nursing student anxiety, and nursing student achievement.

Results: The results of this literature indicate that mindfulness is a holistic intervention that significantly improves mental health in nursing students. It can support students' learning productivity to improve their academic achievement. The focus of mindfulness training program is to develop a better way to observe and concentrate, which in turn will facilitate a reduction in suffering and increased inner peace. Mindfulness will create relaxed attitudes and facilitates an open acceptance of experiences, thoughts, and learning.

Conclusion: Mindfulness therapy with various types of exercises would be a good alternative for nursing students to reduce anxiety. Future studies should explore the long-term effects of mindfulness on the students' learning productivity and academic achievement.

Keywords: *Anxiety; academic learning; mindfulness; nursing students*

HN 2-04

Effectiveness of mindfulness on decreasing stress in health professional students: a systematic review

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ABSTRACT

Background: Stress in health professional students is increasing every year. Therefore it is necessary to implement stress management for the students. Mindfulness is an alternative which can be used to deal with stress. The purpose of this systematic review is to describe the effectiveness of mindfulness on decreasing stress in health professional students.

Methods: This systematic review was conducted by searching relevant articles published in online databases EBSCO, Science Direct, PubMed, and Google. The search was restricted to the full-text articles published in 2010-2017 and employed the RCTs and non-RCTs research designs with a mindfulness intervention.

Results: Of the ten articles reviewed, it was found that mindfulness could decrease stress in professional health students with a very significant p-value. The types of mindfulness administered to the health professional students included yoga therapy, MBSR therapy, and meditation therapy. In average, MBSR therapy is used for health professional students. This intervention is practiced through meditation which lasts for 5-35 minutes for 3-6 weeks.

Conclusion: The study reported that, in average, the intervention to decrease stress in health professional students is performed by using MBSR with a meditation of 5-35 minutes. The intervention is done for 3-6 weeks. Results found that MBSR mindfulness could decrease stress. Further research is needed to explore the effectiveness of mindfulness on other subjects such as students who get scholarships.

Keywords: Health professional students, health, mindfulness, stress

HN 2-05

Effects of Physical-Cognitive Therapy on Increasing Physical and Cognitive Functions in Critical Patients at Intensive Care Unit

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ABSTRACT

Critical patients with impaired physical and cognitive functioning in the Intensive Care Unit (ICU) may have an impact that worsens and weakens the function of other organs, increases the length of treatment, decreases in organ function, muscle contractility, function and pain capacity, fatigue, and impaired mental health, Inability to perform activities and use of instruments in everyday life. The objective of this research was to analyze the Effects of Physical-Cognitive Therapy on Increasing Physical and Cognitive Functions in Critical Patients at Intensive Care Unit. The design of this research was Randomized controlled trial (RCT). Population was the critical patients at ICU Kediri Baptist Hospital. The samples were 64 respondents based on inclusion and exclusion criterion on randomize sampling and single blind. Intervention conducted the first 24 hours of admission to the ICU for 3 days with duration 20 minutes and re-done after the patient was discharged from the ICU. The independent variable was Physical - Cognitive Therapy and the dependent variable ware physical function and cognitive function. The data was collected using Physical Function ICU Test (PFIT) and Mini-Mental State Examination (MMSE). It was analyzed using Wilcoxon test and Mann-Whitney test with significant level $\alpha \leq 0.05$. The results of this research are there significant effects of physical-cognitive therapy on Increasing Physical ($\rho = 0,000$) and cognitive functions ($\rho = 0,000$) in critical patients at Intensive Care Unit. The results showed that there were significant differences in physical function and cognitive function between the intervention group ($\rho = 0,000$) and control Group ($\rho = 0,000$) in Critical patients at ICU. The conclusion there was significant effects of physical-cognitive therapy on increasing physical functions and cognitive functions in critical patients at Intensive Care Unit. Critical nurses can use physical-cognitive therapy to prevent impaired physical function and cognitive function in critical patient in ICU.

Keywords: *Physical-Cognitive Therapy, Physical Function, Cognitive Function, Critical Patient, ICU*

HN 2-06

Physical independence description on patients of tuberculosis in Puskesmas Deket District Lamongan Regency

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ABSTRACT

The success of patients treatment of Tuberculosis Lung seen from the ability of patients in self-care. The results of preliminary study in obtaining data from PuskesmasDeketDistrict Lamongan regency were 22 patients. The purpose of this study is to obtain a picture of physical independence in patients with pulmonary TB in the area of PuskesmasDeketLamongan include taking pulmonary TB drugs regularly according to the program, Eat 3 times a day with enough energy and protein, wear masks while talking to others, Throwing sputum in place, covering mouth when coughing, opening doors / windows in the morning, Take medication to health center as recommended by health officer, check health skill if have physical complaint in the form of nausea, vomiting, dizziness, buzzing ears and blurred vision and sputum check as recommended by health worker. This research type is quantitative research with descriptive method. Conducted on 3 - 9 June 2017.Population of 22 patients with pulmonary TB disease.Sampling with total sampling. The sample is 22 respondents. Research data obtained by observation. The results showed 21 respondents (95.4%) taking pulmonary TB drugs regularly according to the program, 19 respondents (86.3%) eat 3 times a day with enough energy and protein, 1responden (4.6%) wear masks while talking to others, 3 respondents (13.7%) throw sputum in their place, 7 respondents (4.6%) closed their mouths when coughing, 9 respondents (41%) opened windows / doors in the morning, 20 respondents (91%) take medicine to puskesmas as recommended by health officer, 21 respondents (95,4%) check to health personnel if they have physical complaints in the form of nausea, dizziness, buzzing ears and blurred vision, and 21 respondents (95,4%) check sputum according to health worker's suggestion.

Keywords: *physical independence, pulmonary tuberculosis*

HN 2-07

Level of self-care and its correlation with self-confidence and social activity in patients with tuberculosis

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ABSTRACT

Background: Supported self-care is effective to help patients with pulmonary tuberculosis and their families cope with the life challenges, care for the disease, and reduce the complications and all associated symptoms. Self-care maintains the patient's activities and health, as well as promotes well-being. This study aimed to determine the correlation between self-care, self-confidence, and social activity in patients with pulmonary tuberculosis.

Methods: The present study used a cross-sectional study design. Questionnaires were completed by the patients in pulmonary health center of Magelang. The sampling method used was purposive sampling which was based on some criteria developed by the researcher. The patients who met the criteria were 74, and they agreed to participate in the study. The data were collected using four different questionnaires (demographic, self-care health card, self-confidence scale, and social activity scale). Spearman rank correlation was tested to analyse the correlations between self-care and self-confidence in managing the sources of stress and also the correlations between self-care and social activities.

Results: The results of this study reported that 96% patients had independent self-care, and 85% respondents were very confident in managing stress sources. It indicated that the patients had an ability to manage their stress' sources. Also, 73% respondents were not disrupted in their social activities because of the disease. Based on the bivariate analysis, it was found that there was a significant correlation between the level of self-care and self-confidence in managing the source of stress ($p = 0.004$), and there was also a significant correlation between the level of self-care and the patient's level of social activity ($p = 0.000$).

Conclusion: Self-confidence and social activity had an effect on self-care. The patient who had a high level of self-care would have increased patient's social activity and self-confidence.

Keyword: *Self-care; self-confidence; social activity*

HN 2-08

Correlation basic task of the mother based on the status of work with the level of independence of toddler in Tlogotunggal village Sumber sub district regency of Rembang

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ABSTRACT

Background: Mother's employment status is very important for the level of independence of children, if the level of independence of children not invested early will result in children dependent on parents. After an interview with posyandu cadres the number of children under five 70. Interviews with 10 working mothers with toddlers said their children are independent and 10 housewives say their children are not yet independent. The purpose of this research is to know the relation of basic task of the mother based on the status of work with the level of independence of toddler aged children in Tlogotunggal village Sumber sub district regency of Rembang.

Methods: This research is a correlation research with cross sectional approach. The sampling technique used proportionate random sampling, with respondents 60 mothers with toddler age children. The statistical test used is Spearman Rank non parametric test.

Results: The characteristics of mothers with toddler age children dominantly aged 25-29 were 39 (65%), housewife job was 31 (51.7%), dominant child age 3 years 29 (48.3%) with male gender As many as 33 (55%) respondents. The employment status of the mother with good category is 42 (70%) with self-supporting category as much as 22 (36.7%), so get correlation coefficient value $\rho = 0.609$ p value = 0.000 <0.05.

Conclusion: Ha accepted H0 rejected, so there is a correlation basic task of the mother based on the status of work with the level of independence of toddler aged children in Tlogotunggal village Sumber sub district regency of Rembang.

Keywords: *The main task of the mother, Mother's employment status, Level of independence, toddler aged children*.

A systematic review of factors influencing the burden of family caregivers in caring for elderly with dementia

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ABSTRACT

Background: The aging is the final cycle of human life, and one of the disturbances of aging which occurs in the elderly is dementia. Elderly with dementia will experience changes in the pattern of daily life activities, and therefore require total care from the family. There are some reasons of the family for caring for the elderly at home, among others, include the expression of devotion to the parents, respect, and affection towards the parents. The burden of elderly caregivers may lead to a stressful condition which can manifest in depression and frustration, and will finally affect the welfare of the elderly and the family. This study aimed to describe the factors influencing the burden of the family caregivers in caring for the elderly with dementia, and to identify the physical and psychologic factors associated with the caregiver burden.

Methods: A systematic review of three databases, including CINAHL, PubMed, and ScienceDirect was carried out by exploring relevant articles published in 2008 to 2017. The keywords of burden, elderly caregiver, and dementia were used. Seventy potentially relevant articles were selected out of 4.210. After a further review, 16 articles met the inclusion criteria and were used in this study.

Results: The results revealed that factors influencing the burden of family caregivers in caring for the elderly with dementia include family support, family socioeconomic ability, and family coping mechanisms. The burden will get higher when the caregivers play double roles, i.e., caring for the elderly and working to earn a living. The quality of life of the family caregivers can be well promoted if the influencing factors can be resolved.

Conclusion: Three factors influence the caregivers' burden, including family support, socioeconomic factor, and family coping. Of the three factors, family support is the most influential factor in caring for the elderly with dementia.

Keywords: *Burden; caregivers; elderly; dementia*

HN 2-010

Mindfulness as balancing for workers in a working health perspective: a systematic review

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ABSTRACT

Background: Indonesia is a productive country where almost all of its people work. There are various sectors of employment in Indonesia such as agriculture, offices, and factories. High public interest in a job without a balanced self-care in the form of self-awareness and self-acceptance, can lead to health problems, especially stress. The purpose of this systematic review is to describe mindfulness method to reduce the level of stress or depression in workers.

Methods: This study is a systematic review conducted by investigating articles searched through the databases of EBSCO, Google Scholar, and Science Direct. The search was limited to the articles published in 2007-2017. Seven articles that meet the inclusion criteria were used in this review.

Results: There are many methods of mindfulness such as mindfulness based stress reduction, mindfulness-based cognitive therapy, mindfulness compassion, and web stress reduction management. This therapy combines awareness and acceptance without judgment. Thus, it is very effective to reduce psychological stress, anxiety, fear, anger and much more which occur at work.

Conclusion: There are several methods in mindfulness including MBSR, MBCT, Mindfulness Compassion and Web Based Stress Management which can be applied. All methods reported similar effects, that is lowering the level of stress or depression by self-acceptance, focus on current and non-judgmental events. An innovation which combines these methods with an application containing techniques to reduce cognitive, affective and psychomotor stress can be further developed.

Keywords: *Mindfulness; stress; workers*

HN 2-011

Mechanism of change in self-care in adult with chronic illness receiving self-management program: a systematic review

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ABSTRACT

Background: Self care Intervention was Chalenge in Previous Study there wereSelf Management Supporting to Improve Self Care. To Identified the mechanism Intervention Effectiveness by Including the relationship between the technique and changes in self care method.

Methods: The literatures were sciendirect, elsevier, ieeeexplore. It was undertaken in june 2017. The literatures journal published from 2012 till 2017. From 40 journal, there were 15 journals used to analyses. All of themwas quantitative.

Results: from the eligible study, there were many ways to improved self care, there weremotivational interviewing, group discussion,counseling, educational (based on preceed proceed and culturally tailored educational intervention) guided reflextion,guided patients, mind body skills group, PRO-SELF group patients, supportive educational intervention, cultivating mindfulness. These technique gave advantages for patient self care there were it can increase self care, increase self care management, increase self care confidence, increase quality of life,enhacing self care, increase mindfulness,increased foot score self care,decrease pain,increase self care behavior, promote self care and well being, rest and relaxation, keep active, psychological, well being, and supportive care.

Conclusion: the kind of Self Management Program had a significant positive effect on Self-care behavior in patients with chronic illness.

Keyword: *Self-care, Self-Management Supporting, Chronic Illness*

The satisfaction level of post-surgery patients between regional and general anaesthesia at PKU Muhammadiyah Gamping Hospital Yogyakarta

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ABSTRACT

Introduction: Patient satisfaction is an important and commonly used indicator for measuring the quality in health care. A patient who will go through surgery requires general or regional anaesthesia. This research wants to find out satisfaction levels of post-surgery patient between regional and general anaesthesia at PKU Muhammadiyah Gamping Hospital.

Method: This research is an observational analytic design with cross-sectional approach. The samples in this study were post-surgery patients of PKU Muhammadiyah Gamping Hospital and were taken using consecutive sampling technique with 70 respondents. Satisfaction levels of patients were measured by using Iowa Satisfaction with Anaesthesia Scale (ISAS).

Results: Prevalence of patient who did not feel pain during surgery was higher at general anaesthesia (55.7%) compared to regional anaesthesia (27.1% (p=0.01)). Prevalence of nausea and vomiting was higher at general anaesthesia (28.6% compare to regional anaesthesia (14.3% (p=0.324)). Prevalence of patient who felt relaxed was higher at general anaesthesia (58.6% compare to regional anaesthesia (40% (p=0.411)). Prevalence of patient who felt pain was higher at general anaesthesia (24.3% compare to regional anaesthesia (14.3% (p=0.688)). Prevalence of patient who satisfied with anaesthetic care was the same between regional and general anaesthesia (100%).

Conclusion: There is no correlation between satisfaction levels of patient with regional and general anaesthesia at PKU Muhammadiyah Gamping Hospital, but patients tend to use general anaesthesia rather than regional anaesthesia.

Keywords: *Satisfaction Levels, Regional Anaesthesia, General Anaesthesia*

HN 2-013

The effect of hypnotherapy using Induction Hanung Technique on the level of cigarette dependence and carbon monoxide in exhaled breath among active smokers

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ABSTRACT

Background: Smoking is a habit that causes many health problems. Nicotine substances in cigarettes cause addiction and carbon monoxide inhaled is poisonous.

Hypnotherapy using induction Hanung technique is an alternative which can be used to change someone's smoking behaviors. This therapy is performed by giving hypnotic suggestions combined with a massage at acupuncture points of neguan, yintang, and taiyang. This study aimed to analyze the effects of hypnotherapy using induction Hanung technique on the level of cigarette dependence and carbon monoxide in exhaled breath among active smokers in Kesdam IV/ Diponegoro College of Nursing, Semarang.

Methods: The present study employed a true-experimental pretest-posttest control group design. A total of 40 students were recruited as samples and randomly assigned to the intervention group (n=20) and control group (n=20). The intervention in the form of hypnotherapy using induction hanung technique was given for six times in two weeks. The instruments used were Fagerstorm Test for Cigarette Dependence (FTCD) and smokerlyzer. Data were analyzed with the Mann-Whitney test and independent t-test.

Results: The results showed a decrease in the score of cigarette dependence level in the intervention group by 1.25 after the intervention was given with pretest mean value of 1.45 (SD=1.132). The result of Mann-Whitney test showed a significant difference in the cigarette dependence score between the intervention and control groups with a p-value of 0.028. The level of carbon monoxide in the exhaled breath also decreased by 8.80 ppm after the intervention from the pretest mean values of 12.55 (SD=6.669). The independent sample t-test result also showed a significant difference in the carbon monoxide level between the two groups with a p-value of 0.000.

Conclusion: The present findings showed that hypnotherapy using induction hanung technique affected the level of cigarette dependence and carbon monoxide in exhaled breath among the active smokers. Based on the findings, this therapy is recommended as an alternative to nursing intervention for the smoking cessation programs.

Keywords: *hypnotherapy, cigarette dependence; carbon monoxide*

HN 2-014

Peer educators' competences for inmates with HIV/AIDS: a systematic review

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ABSTRACT

HIV/AIDS is a global health issue contributing mortality particularly in correctional settings. Peer education is considered as an effective intervention in modifying behaviours of prisoners with HIV/AIDS. There was a limited review revealed peer educators' competences for inmates with HIV/AIDS. This literature review aims to describe competences of peer educators for inmates with HIV/AIDS. The study method was a systematic review of seven (7 papers (from 1997 to 2017)) selected from data bases (EBSCO), Science Direct, and Google Scholar with PICO method in screening papers. The data extracted and analysed qualitatively in emerging categories related to the study goal. The findings show three peer educators' competences for inmates with HIV/AIDS including (i) knowledgeable about HIV and related disease such as TB and STDs, (ii) good communication skill in educating and interacting with some parties in the correctional facilities and community, and (iii) well-behaved in HIV treatment and prevention, daily life, and learning process support. Peer educators' competences for inmates with HIV/AIDS involve knowledge, communication, and behaviours related to HIV/AIDS and learning process in adopting behaviours. The study suggested a comprehensive peer educator recruitment and curriculum for peer educators in changing behaviours of inmates with HIV/AIDS.

HN 2-015

Case study: subjects characteristics, causa factors, methods and community responses of suicide

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ABSTRACT

Background: Suicide is the second leading cause of death among people aged 15 - 29 years in many countries. Suicides in Wonogiri District increases every year and occurs in all age sex. Man dominated in suicide cases. This study is aimed to identify human characteristics, causality, methods and public opinion on suicide.

Methods: A qualitative study design was used grounded theory on suicidal family. Sampling technique uses purposive sampling. The number of informants is 3 primary informants and 3 secondary informants.

Results: The human characteristics of suicide were male with range age 15 until 65 years, introvert man, middle to lower economic status and have suicide ideation. The risk factors of suicide were economic, genetic, bullying, depression due to chronic disease, few family support, and loneliness. The suicide methods which is used with hanging their self by a rope. The public opinion about suicide said that suicide is sin.

Conclusion: Suicide was caused by depression and lack of family support. Although suicide was sin, the community was still buried and pray the man of suicide.

Keywords : *Human Characteristics, Causality, Methods, Public Opinion, Suicide*

HN 2-016

Holistic nursing practice in complementary therapy

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ABSTRACT

Introduction: Nursing practice in Indonesia continues to grow from year to year. Similarly, complementary nursing practice. It is expected to answer the public demand for the existence of alternative therapies in an effort to get a cure for the disease. In the practice of complementary therapies nurses have an important role, including the application of the holistic principles of nurses during the treatment process. One of the many complementary therapies in Indonesia is herbal practice. The purpose of this research is to know the description of nurse knowledge related to holistic nursing care in complementary therapy service at Hortus Medicus Tawangmangu herbal clinic, Central Java, Indonesia

Method: This research method is descriptive with survey approach. The research instrument used questionnaires with Guttman and Likert scales. Respondents were 15 nurses using total sampling. Data collection was done by disseminating holistic nursing knowledge questionnaires The data were analyzed by univariate analysis.

Results: Nursing knowledge about holistic nursing is depicted through three levels, that is high knowledge of 23,1%, enough knowledge equal to 69,2% and low knowledge equal to 7,7%. There are six types of knowledge measured in this study, namely personal, empirical, aesthetic, ethical, ignorance, socio-political. The nurse correctly answers the types of personal, empirical, and aesthetic knowledge, whereas other types of knowledge still have wrong answers.

Conclusion: T The nurse's knowledge level of holistic nursing at Hortus Medicus Tawangmangu is in enough category. So nurses need to improve their knowledge by conducting holistic nursing related training.

Keywords: *Complementary Therapy, Holistic, Knowledge*

HN 2-017

Determinant factors of exclusive breastfeeding: a literature review

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ABSTRACT

Introduction: Exclusive breastfeeding (EBF) means that the infant receives only breast milk for the first six months of life. The aim of this study was to discuss the determinant factors of exclusive breastfeeding.

Methods: We extracted 30 articles in both qualitative and quantitative studies written in English, based on PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) method.

Results: There were 7 determinant factors of exclusive breastfeeding mentioned. The proportion of mothers who exclusively breastfeed their infants up to 6 months remaining low.

Conclusion: Interventions that seek to increase exclusive breastfeeding should be timely with an increased focus on mothers with infants four to six months of age and in those who are most at risk of early discontinuation of exclusive breastfeeding.

Keywords: *Determinant factor, Exclusive breastfeeding*

HN 2-018

The prevalence of religious coping and religious practices among patients with schizophrenia

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ABSTRACT

Introduction: Religious coping is an essential resource influencing how individuals cope with the illness including patients with schizophrenia. The purpose of this study was to describe the prevalence of religious coping and practices among patients with schizophrenia.

Method: This descriptive study conducted in one psychiatric hospital in Central Java Indonesia. A total of 116 patients with schizophrenia who were admitted in psychiatric hospital completed a survey consisting demographic questionnaire, religious practices and Brief Religious Coping (Brief R-COPE). The data were analyzed using descriptive statistic.

Results: The mean age of the patients was 33.29 (SD = 9.21), most were male (71.6%) and most were Muslim (95.7%). This study found that the mean score for positive religious coping was 10.02 (SD = 3.38) while the mean score for positive religious coping was 3.48 (SD = 2.52). It was found that 87.9% of patients with schizophrenia had positive religious coping. The majority of the patients reported that prayer (68.1) was the most religious practices to cope with their illness.

Conclusion: The results of the study suggest that religious coping and religious practices may serve as potentially effective method coping for patients with schizophrenia. Therefore, mental health professional especially nurses need to integrate spirituality into mental health care. Further study is needed to examine the relationship between religious coping and the symptoms of schizophrenia.

Keywords: *religious coping; religious practices; schizophrenia; spirituality*

HN 2-019

Effects of spiritual mindfulness on coping ability in dealing with stress in pregnant women: a systematic review

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ABSTRACT

Background: Stress during pregnancy increase the risk for poor childbirth outcomes and postnatal mood problems and may interfere with mother–infant attachment and child development. Another reason, various pregnancy complications like hypertension, preeclampsia have been strongly correlated with maternal stress. A positive coping mechanism to reduce stress in pregnancy and early postpartum can be performed through mindfulness with a spiritual approach. This study aimed to describe the effects of spiritual mindfulness on coping ability in dealing with stress in pregnant women.

Methods: The present study is a systematic review. The search of the literature was carried out by exploring articles through the databases of EBSCO, PubMed, ScienceDirect and Google Scholar. The articles were limited to publication in 2007 to 2017 and employed the RCTs and non-RCTs research designs with a mindfulness intervention. Ten articles that met the inclusion criteria, i.e., pregnant women >10 weeks of gestation, and aged 18-50 years old, were used in this review.

Results: This study identified 861 articles in the scientific literature, but only nine articles were classified as eligible according to the previously established criteria. Pregnancy is a very sensitive stage of every woman's life, and it needs proper care. Some methods of mindfulness, including Mindfulness-based Cognitive Therapy (MBCT), *MindBabyBody* program, Mindfulness-Based Prenatal Yoga, Islamic spiritual-based mindfulness, Mindful Motherhood intervention (adapted from MBCT and MBSR), and mindfulness meditation were evident to be effective to reduce the day-to-day perceived stress in pregnant women.

Conclusion: From the study, it was evident mindfulness significantly decreased stress in pregnant women. Mindfulness therapy with a spiritual approach would be a good intervention to a pregnant woman to reduce stress in pregnancy.

Keywords: *Mindfulness; stress; pregnant woman*

HN 2-020

Gardening therapy: a solution to reduce stress levels in elderly

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ABSTRACT

This study is how to know about Gardening Therapy can influence to decrease stress in elderly. Subject in this study are 31 (N=31) and can be given treatment are 16. This study use quantitative method with one group pretest and posttest design. Subject is done try out then subject is given pretest and also is given treatment as much as three treatment, then subject was given posttest. From Normality test that was done show that signification of normality test is 0,2 and that is normal and T test with Paired Samples T-Test with signification 0,0 and correlation 0,961. Gardening Therapy has influence 96,1 % to decrease stress in elderly and hypothesis can be received.

HN 2-021

Mindfulness, stress, and well-Being in working parents

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ABSTRACT

Background: The current uncertain economy results in an increase in the percentage of families with working parents. In fact, the participation of female workers continues to increase and is now the main breadwinner in 40% of families. Reports of increased stress and conflict among workers also increased, particularly for women workers. Work-family conflicts occur when the demands of work and family life are inappropriate in some respects. Mindfulness is a mediator in the causal relationship between job stressors and well-being to assist workers in balancing work and family life. The purpose of this systematic review is to determine the effects of mindfulness on stress and parent well-being in working parents.

Methods: This study is a systematic review with electronic database literature searching through EBSCO E-Journal, Google Scholar, Science Direct, and PubMed published in 2013 to 2017. The inclusion criteria were: 1 quantitative experimental study, 2 written in English, 3 employing respondents of workers, 4 applying mindfulness intervention, and 5 providing outcomes of stress and or well-being.

Results: The results of this review obtained seven articles determined based on the inclusion and exclusion criteria. Results indicated that mindfulness could reduce stress and increase well-being in workers.

Conclusion: Mindfulness as a mind-calming, centered intervention of current awareness can be used to reduce stress, improve well-being, happiness, self compassion, physical and mental workability in workers. Also, mindfulness can also be practiced to improve the quality of the parent-youth relationship, youth behavior management, and parent well-being in the effort to attain family well-being.

Keyword: *Mindfulness, parent well-being, stress, working parents*

HN 2-022

The role of peer group in overcoming depression in adolescent

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ABSTRACT

Introduction: Throughout adolescence, peer groups and friendships form an important context for healthy or unhealthy development. Depression has been identified as a priority disorder in children and adolescents. While many reviews have examined the individual and family factors that contribute to children and symptoms of teen depression, little is known about the support factors especially from peer influences. The purpose of this study is to complete a systematic review to determine the effect of peer group on decreased levels of depression in adolescents.

Methods: This study was a systematic review. A literature search was conducted to identify the relevant literature from CINAHL, Pubmed, Medline, PsycINFO, Google Scholar and Elsevier. The search was limited to the articles publish between 2012 and 2017. After the reviews had completed, a total of 10 articles meet the inclusion criteria.

Results: The findings suggested that adolescents with depression are more connected and have a tendency to be more affected by peers than with parents and other communities. The results also showed that support and also social ties between the depressed adolescents and their friends would strengthen the condition of the adolescents. Practitioners who will conduct a study on depression in adolescents, should consider the existence of peers as a network that will help the practitioners to perform nursing interventions.

Conclusion: The results showed that there was a positive effect of the role of peer group in reducing the negative impact of depression. Risk factors for depression symptoms in adolescents can be minimized by the presence of a significant peer group role. The findings showed that individuals from the same group of friends are somewhat similar to expectations and well-being. Multilevel modelling of structural equations showed that the hope of friendship groups is significantly related to psychological and social welfare.

Keywords: *Adolescents, depression, influence, peer group*

HN 2-023

Effectiveness self-help groups on stress, anxiety, and depression level in nursing home residents at Semarang

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ABSTRACT

Background: Decreased health status and emotional problems in the elderly interact with one another. Where the health problems experienced by the elderly do not activity as usual, and feel helpless. If this is left for long periods, the elderly may experience emotional problems such as stress, anxiety, and depression. Environmental factors, also contribute to the occurrence of emotional problems. Lack of support from the family, feeling helpless and hopeless, is a problem experienced by the elderly living in nursing homes, in addition to the declining health status. An intervention through group process, self-help groups (SHG), is expected to be effective in overcoming the emotional problems experienced by the elderly. The study aims to describe the effectiveness of SHG to decrease the level of stress, anxiety, and depression before and after SHG intervention in nursing home residents**.**

Methods: The research method is quasi experiment with pre test-post test with control group design. Twenty respondents who experienced stress, anxiety and depression, were divided into treatment and control groups, each of 10 people. Data analysis using paired T-test.

Results: The results showed changes in stress, anxiety, and depression before and after being given SHG intervention with p value $< \alpha$.

Conclusion: Nurses are expected not only to provide support and nursing care, but must consider the physical and psychological environment of elderly in nursing homes. So the elderly will feel right at home, surrounded by people who love them.

Keywords: *Self Help Groups, Stress, Anxiety, Depression*

HN 2-024

Effectiveness of self-help therapy on reducing stress in adolescents: a systematic review

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ABSTRACT

Background: Stress in adolescents during the developmental phase can bring negative effects on the health outcomes. Interventions to reduce stress are needed to help the adolescents manage their stress. Self-help cognitive based therapy can reduce stress in adolescents. This study aims to describe the effectiveness of self-help cognitive based therapy on reducing stress in adolescents.

Methods: The present study is a systematic review. We conducted an advanced search using standardized search protocol in six electronic databases to identify the relevant literature via CINAHL, Pubmed, Medline, PsycINFO, Google Scholar and Elsevier. The search was limited to the articles published in 2007 to 2017. After the reviews, we identified 12 articles that met the inclusion criteria and were used in this study.

Results: We identified ten studies related to the development of adulthood mental and physical health. Adolescence is a period of multiple stressors, and coping strategies need to be developed to deal with stress throughout the lifespan. Education, health, and social interventions should be empowered in managing stress in adolescents. Self-help interventions were evident to be effective in managing and decreasing stress in adolescents.

Conclusion: Mental and physical health in adolescence is a contributing factor to adulthood attainment and life chance. Self-help therapy can reduce stress in an adolescent. Developing mental health of adolescents in managing stress is very important so that the adolescents can reach optimal health.

Keywords: *Adolescent, stress decrease, self-help*

HN 2-025

The difference pre induction hypnodonti method towards anxiety of children age 4-8 years old: case study of dental hospital UMY and its network

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ABSTRACT

Introduction: Children has usually experience anxiety during dentist visit, it usually happen to those who made dental visit for the first time or specifically afraid of dental instrument. Approaching method was developed to cope this anxiety and hypnodonti is one of them. Hypnodonti is one of hypnosis type that used in dentistry for dental procedure. Stages of hypnodonti are pre induction, induction, deepening, depth of level, suggestion, termination and post hypnotic. Hypnodonti have used by medical staff to treat patient to be mentally anesthetized. Pre induction was used as the first stage that determined the success of hypnodonti. The application of hypnodonti result relax, comfortable, and calm effect to the patient immediately so it can reduce effect of anxiety such as pain during dental treatment. This study was aimed to determine a difference hypnodonti induction towards anxiety between boys and girls age 4 – 8 years old in Dental Hospital UMY and its network.

Methods: This study was quasy experimental study with one group pretest posttest design. Venham's picture test was used as anxiety measurement. Samples were 28 children, 11 boys and 17 girls age 4-6 years old. Data was analyzed using Mann Whitney test.

Results: Data were analysed using Mann Whitney test result p 0.267 for children group age 4-6 years old. Furthermore children group age 6-8 result p 0.846 (p>0.05).

Conclusion: There were a difference of anxiety level between boys and girls group age 4-6 and 6-8 years old but not statically significant.

Keywords: *pre induction, hypnodonti, anxiety*

HN 2-026

Effects of progressive muscle relaxation intervention with music and aromatherapy on decreasing stress level among teachers

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ABSTRACT

Introduction: Stress among teachers has a significant relationship with the psychosomatic and depressive symptoms. Community nurses need to make efforts in preventing the adverse effects of stress on teachers. Progressive muscle relaxation with music and aromatherapy is an alternative intervention which can be practiced to reduce the level of stress among teachers. This study aimed to investigate the effects of progressive muscle relaxation which was combined with music and aromatherapy on decreasing the level of stress in teachers.

Methods: This study employed a pre-post test quasi-experimental design with a control group. The samples were 46 teachers recruited by purposive sampling and were assigned to the intervention group (n=23) and the control group (n=23). The intervention of progressive muscle relaxation with music and aromatherapy was given to the intervention group for four sessions in four days; each session lasted for 20 minutes. The data were analyzed using the t-test to know the effects of the intervention on decreasing the stress level.

Results: The results showed that the average level of stress of the teachers in the intervention group decreased from 50.65 ± 3.761 to 32.78 ± 8.426 after the intervention. Meanwhile, in the control group, the average stress level slightly decreased from 49.87 ± 3.348 to 49.17 ± 4.868. The result of the t-test obtained a p-value of 0.000 ($<0.,05$), indicating that there were significant differences in the stress levels between the intervention and the control group.

Conclusion: Progressive muscle relaxation with music and aromatherapy could reduce the level of stress in school teachers. Based on the findings, it is recommended that the school teachers perform this relaxation therapy to decrease the stress level. The teachers could practice the therapy by the help of training from the community nurses.

Keywords: *Aromatherapy, music, progressive muscle relaxation, teacher stress*

HN 2-027

Early warning score as a triage system increases response time of patient management in emergency departments

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ABSTRACT

Background: This study aimed to analyze the effect of EWS as a triage system to response time of patient management in Emergency Departments.

Methods: This quasi experimental study used post-test only with control group design to 210 respondents. Respondents were recruited using incidental sampling techniques from two different hospitals. Response times were measured using stopwatch from patient's triage to initial assessments by physicians or nurses. The data were analyzed using independent sample t-test.

Results: The result showed that response time of EWS was 3.2 ± 0.71 minutes compared to response times of classic triage system which were 3.6 ± 1.00 minutes. There was different mean score in the response time of patient management between the treatment (EWS) and control group (classic triage system) with p value of 0.001.

Conclusion: The study concluded that EWS increased response time of patient management in Emergency Departments compared to classic triage system. Therefore, it is recommended to Emergency Departments in Indonesia to use EWS as the triage system for the best patient care.

Keywords: *Early Warning Score, Response time, Triage system, Emergency Departments.*

HN 2-028

Effect of mindfulness intervention on the intensity of pain and anxiety in nasopharyngeal cancer patients

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ABSTRACT

Introduction: Physical and psychological responses that occur in patients with nasopharyngeal cancer is the especially caused the effects of treatment. Problems of pain and anxiety in nasopharyngeal patients at the treatment becomes very important because it can cause comorbidity, psychological trauma and increased mortality. Mindfulness is a safe psychotherapy, can be done anywhere, and aims to transform the consciousness into the stage of acceptance. This study aims to determine the effect of mindfulness intervention on the intensity of pain and anxiety in patients with nasopharyngeal cancer who are undergoing treatment at RSUP Dr. Kariadi Semarang.

Methods: The method used in this research is quasy experiment with pre-post control trial design. Amount of Samples are 33 subject which taken based consecutive sampling. This study involved respondents in outpatient radiotherapy, each respondent received mindfulness intervention for 6 sessions, divided into 3 meetings. Measurement of pain intensity and anxiety was done before and after being given mindfulness for 6 sessions using Visual Analogue Scale (VAS) and Hamilton Anxiety Rating Scale (HAM-A). Hypothesis testing is performed to see the effect of mindfulness by distinguishing the results before and after intervention.

Results: The results showed a decrease in average pain rate from VAS value 4.12 (moderate pain) to 3.06 (mild pain) and decreased anxiety level from HAM-A value 21.19) (moderate anxiety to 17.88 (mild anxiety in the group treatment. There was a difference of pain and anxiety level before and after mindfulness in intervention group with P value = 0,001 (P <0,005).

Conclusion: Mindfulness interventions can be used as integrative therapy to reduce pain and anxiety in cancer patients.

Keywords: *Pain, Anxiety, Mindfulness, Nasofaringeal cancer*

HN 2-029

Qualitative Study of Nurse Clinical Reasoning With Heart Failure Patients

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ABSTRACT

Background: Nursing is a profession closely associated with clinical reasoning process. The clinical reasoning is the most significant part of the nurse practical compensation. A hearth failuresuffering patient becomes a nurse problem requiring sharp reasoning, but because of a lack of knowledge, implementation of evidence based-practice in service and insufficient skill in care, it becomes significant attention of nurse service.

Objective: this research aims to make out nurse clinical reasoning perception to care of a heart failure patient .

Method: qualitative method with interpretative hermeneutic method was conducted to 6 nurses in a hospital located in Semarang. Nurse perception was gained by Focus Group Discussion (FGD) followed by the unstructured interview and the data was analyzed by implementing qualitative analysis method.

Result: there are three topics in this research. They are self-awareness, patient-nurse value and believe and the improvement of nursing science between theory and practice.

Conclusion: in this study, nurse has lack in determining nursing diagnosis, outcome and best intervention and also lack of evidence based-practice become the feature of the nurse perception in caring a heart-failure patient. There is a need for nursing strategy development to enhance nurses' competency in clinical reasoning.

Keywords: *Clinical reasoning perception, a heart failure*

HN 2-030

How quality of life of patients with fertility problem is related to their anxiety and depression?

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Introduction

Quality Of Life (QOL) of a person, man or woman, can considerably be affected by fertility problem. FertiQOL is an instrumentation that specifically measured the QOL of patients with fertility problem. This study is the first one that measure the QOL of patients with fertility problem with specific instrumentation. The objective of this study is to explore the association between the QOL of patients with fertility problem and the level of anxiety and depression.

Method

A cross sectional study was conducted in three fertility clinics in Central Java. A total of 200 patients with fertility problem that undergoing treatment were asked to fill out a set of questionnaires that comprised: Fertility Quality of Life (FertiQOL), Hospital Anxiety, Depression Scale (HADS) and sociodemographic questions. Association between total scale and sub-scale of FertiQOL and sub-scale of HADS were examined.

Results

The 200 patients (male= 75; female = 125) recruited in this study have the average fertility problem of 5.3 ± 3.7 years. The mean age of the participants was 32.9 ± 5.4 years. Association analysis showed significant negative correlation between the scores of anxiety and depression and all the subscales of FertiQOL. The correlations coefficient (rho) are ranging from -0.323 (between the Environment sub-scale and anxiety) to -0.643 (between the Mind and Body sub-scale and anxiety).

Conclusion

This study confirm the expected negative correlation between the QOL of patients with fertility problem and anxiety and depression.

Keywords: quality of life/ anxiety/ depression/ fertility

NT 1-01

Physical Activity And Carbohydrate Intake And Its Association With Abdominal Obesity Among Indonesian Adolescents

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ABSTRACT
Introduction. Abdominal obesity (AO) also known as central obesity, is when excessive abdominal fat around the abdomen. Waist circumference (WC) has been used as an indicator of abdominal obesity (AO) with high sensibility and specificity. Positive energy balance has resulted from the high energy intake, as well as a decline in PA, with more time being spent sedentary activities. Decrease physical activity (PA) may have a negative effect with AO. High carbohydrate (CH) intake may promote excess energy. The study aimed to assess whether PA and CH intake are associated with abdominal obesity in Indonesian adolescents.

Method. Cross-sectional study of 71 adolescents from 15-17 y-old in Semarang City. Subjects were obese adolescents. Purposive sampling was chosen from public senior high school. Dietary intake was assessed using Food Frequency Questionnaire (FFQ) combined with 2-day food records. Pattern and duration of physical activity were assessed using International Physical Activity Questionnary (IPAQ)

Results. Mean of energy intake among subjects was 2932±630 Kkal. The proportion of macronutrient intake were CH 66%E, Protein 11%E, and Fat 23%E. Physical activity are low in all subjects, not attaining the 60 minutes daily. Adolescent girls were less active than boys, with 84% of girls and 78% of boys. There were association between WC with BMI (r=0.34, $p < 0.05$), with PA (r = -0.541, $p < 0.01$) and with CH intake (r = 0.26, $p < 0.05$).

Conclusion. Physical activity are associated with carbohydrate intake and inversely WC.

Keywords: physical activity, dietary intake, abdominal obesity, adolescent

NT 1-02

Iron-rich food analysis to be potential source for food-based approach on iron deficiency anemia prevention

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ABSTRACT

Introduction: Iron deficiency anemia is still problems worldwide, especially in female adolescent and pregnant women. Many efforts has been done to overcome the burden of iron deficiency anemia, including the approach of food-based supplementation. The study aimed to describe various ingredients which tend to be rich in iron in order to prepare a snack food to be consumed by the female adolescent.

Method: This was a cross-sectional study on nutrition content of food used as supplement that about to be given to female adolescent in iron deficiency anemia prevention. The nutritional content of each food was searched from national and international food composition table and the database of Nutrisurvey. The nutrition analyzed in this study were iron and iron-absorption-modifier substance such as vitamin C, protein, dietary fiber, phytate, and polyphenols.

Results: The content of iron in each serving portion of the snacks is very small (6,2 – 21,5 mg) with the highest iron content supplied from iron-rich nugget which made of animal iron-source. The highest iron content also provide the highest energy (1038 kcal) per serving portion. The content of dietary fiber, phytate, and polyphenols are small but have important effect on iron absorption and metabolism.

Conclusion: The iron-rich snack in order to provide sufficient iron for adolescent is optimally provided from animal iron source. The content of iron-absorption modifier substances are small but important to be taken into account in preventing iron deficiency anemia.

Keywords: *iron, food-based supplementation, iron deficiency anemia, phytate, polyphenols*

NT 1-03

Vegetables Consumption has Stronger Correlation with Blood Pressure in Outpatient of Dinoyo Community Center in Malang, Indonesia: a Case-control Study

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ABSTRACT

Introduction: Essential hypertension has been identified as a significant risk factor for cardivascular disease, stroke, and renal disease. Fruits, vegetables and sodium consumption, moreover, have potential effects on blood pressure. We aimed to determine the correlation among fruits, vegetable and sodium on blood pressure.

Methods: A community-based case-control study with 43 hypertensive subjects (case group) and 43 non-hypertensive subjects (control group) aged between 25 to 60 years and living in Dinoyo, Malang, Indonesia, selected by *purposive sampling*. Subjects were recruited between July-December 2011. Fruits and vegetables intake were obtained using *semi quantitative food frequency questionnaire* (SQ-FFQ). A portion of fruits and vegetables was quantitatively defined with household measures as outlined by Indonesian Dietitian Association using food models. Sodium containing food intake used *single 24-hour recall.* Fruits, vegetable and sodium intake computed using *Nutrisurvey* with Indonesian food composition table database to obtained estimated nutrients values and compared to standard recommended by the Indonesian Dietitian Association. Blood pressure was categorised using The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation and Treatment of High Blood Pressure. Multiple logistic regression test was used in multivariate analysis.

Results: In case group and control group, the average intake of fruits are 0,97±0,62 portion/day and 2,43±1,19 portion/day respectively, vegetables are 1,03±0,67 portion/day and 3,07±1,32 portion/day respectively, sodium are 2241,99±394,45 mg/day and 1718,16±387,91 mg/day respectively. Multiple logistic regression analysis showed that vegetable intake is the most closely correlated to hypertension.

Conclusions: The intake of fruits and vegetable have negative correlation with systolic and diastolic blood pressure while sodium have positive correlation with them. However, the vegetable intake have the highest correlation with hypertension among others. It is important to enhance adequate vegetable intake to prevent hypertension.

Keywords: *blood pressure, fruit, vegetable and sodium intake, Indonesia*

NT 1-04

Low glycemic index noodle snack from yellow sweet potato (*Ipomoea batatas)* and pumpkin (*Cucurbita moschata)* blend

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ABSTRACT

Introductions: Food with low Glycemic Index (GI and diet modification using high fiber and antioxidant contents are recommended to control blood sugar level. Sweet potato, pumpkin, and cinnamon have high fiber and antioxidant content; therefore, they are potential raw material for low GI food product. The study aimed to obtain the best formula of noodle snack utilizing sweet potato and pumpkin with or without cinnamon. The snack is expected to have good organoleptic acceptance, healthy nutrients (total antioxidant level, amylose, starch digestibility, and dietary fiber, and low GI value.

Methods: A quasi experimental study was conducted to make noodle snack using six formula of sweet potato and pumpkin paste substitution, i.e., 30% yellow sweet potato, 30% pumpkin, and mixture of 15% yellow sweet potato and 15% pumpkin, with or without cinnamon powder (1.5% and 0%). Organoleptic data were analyzed using Duncan's Multiple Range Test while the nutrient content (total antioxidant level), amylose, starch digestibility, and dietary fiber were analyzed using Tukey's Test.

Results: Noodle snack without cinnamon powder was the most preferable formulation by the panelists. The snack made of pumpkin and yellow sweet potato has high hypoglycemic activity (high amylose content 37.03%), low starch digestibility 9.62%, and high dietary fiber 1.88%. GI determination in ten healthy subjects revealed that it has a GI value of 30.18, which was categorized as low GI. However, it has the lowest levels of total antioxidants (IC50 33.76 ppm).

Conclusions: Noodle snack from sweet potato and pumpkin blends has a good acceptance and low GI value, suggesting it to be a healthy snack that can assist in controlling blood sugar level.

NT 1-05

Antioxidant Activity and Soluble Protein Content in Tempeh Gembus Hydrolysate

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ABSTRACT

Introductions: Tempeh gembus is fermented soy-pulp product contains high protein and its bioactive peptide components which has potential antioxidant activities. In this study bromelain enzyme was applied in tempeh gembus to break up peptides bond and released bioactive peptide and amino acids. The aim of this research was to analyse antioxidant activity and soluble protein of tempeh gembus hydrolysate.

Methods: Experimental research with 4 bromeline enzymes were applied in tempeh gembus as 0 ppm, 5000 ppm, 8000 ppm, and 10000 ppm. Antioxidant activities were measured by ABTS and DPPH radicals test. While soluble protein content was measured by Bradford test.

Results: In general, antioxidant activity of tempeh gembus hydrolysate was higher when measured by ABTS radical (63.14±1.16 – 92.85±2.28%) compared to DPPH radical (52.21±5.76 – 65.70±5.89%). Antioxidant activity of tempeh gembus hydrolysate in ABTS test differed significantly between treatment groups (p=0.001, but not on DPPH test (p=0.110). While soluble protein content of these protein hydrolysate were 0.58±0.05 – 0.78±0.11% and significantly differed between treatment groups (p=0.019).

Conclusions: Antioxidant activity was significantly higher when measured by ABTS radical compared to DPPH radical with different protein soluble content.

Keywords: *Tempeh gembus, hydrolysate, antioxidant activity, soluble protein*

NT 1-06

Administration of Tempeh deep fried in vitamin A fortified or unfortified palm oil to mice (mus musculus : effect on serum retinol

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ABSTRACT

Introduction: Repeated use of palm oil to deep fry Tempeh is extensively employed in domestic and street food vending practise. Fortification of vitamin A in commercial cooking oil is mandatory by SNI as vitamin A-fortified cooking oil is considered as one of effective vehicles to reduce vitamin A deficiency. The aim of this research was to determined serum retinol level of mice (Mus musculus) administered Tempeh which has been deep fried in vitamin A-fortified or unfortified palm oil.

Methods: Three types of cooking oils were tested i.e. vitamin A-fortified palm oil (POvitA, unfortified palm oil (PO), and coconut oil (CO) as control. The oils were used to deep fry tempeh repeatedly for five times. The fifth fried tempeh from each cooking oil was adminstered to three groups of mice (1.5 months old) which was randomly assigned as 1 POvitA, 2 PO, and 3 CO in line with the types of oil being tested. Administration of the fried Tempeh was done for 14 days, in which seven days for transition feeding and seven days full Tempeh feeding. Serum retinol and body weight were measured before and after administration.

Results: The result showed that in each group, there was a significant raise of serum retinol and body weight after 14 days of experiment ($p < 0.05$). At the end of the experiment there was no significant difference ($p > 0.05$) in serum retinol and body weight of mice between groups.

Conclusions: This study suggested that compared to vitamin A fortified oil, adminstration of Tempeh deep fried in unfortified cooking palm oil or coconut oil produced similar raise in body weight and serum retinol in normal mice.

NT 1-07

Sensitivity And Spesificity Of Neck Circumference As An Indicator For Metabolic Syndrome In Obese Teenagers

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ABSTRACT

Introduction: The worldwide prevalence of obesity has increased significantly. Obesity is associated with metabolic syndrome (MS). A proper and accurate measuring tool is needed as an indicator for metabolic syndrome in teenagers.

Methods: Subjects are 130 obese teenagers (66 boys and 64 girls), divided into MS group and pre-MS group. Body height, weight, waist circumference, neck circumference and blood pressure are measured. Blood samples are collected to measure fasting blood glucose, blood triglyceride and HDL cholesterol levels. The sensitivity and specificity of neck circumferences as an indicator for MS in obese teenagers are calculated using Receiver Operating Character (ROC).

Results: Neck circumference is useful as an anthropometric indicator for MS in teenagers with obesity (AUC = 0,725). The Positive Predictive Value (PPV) (0,827) showed that neck circumference has a good sensitivity to predict MS in obese teenagers. But neck circumference is not too specific to predict MS in obese teenagers based on The Negative Predictive Value (NPV) calculation value of 0.680.

Conclusions: Neck circumference is good enough as an anthropometric indicator for MS in teenagers with obesity.

Keywords: *teenagers, obesity, neck circumference, metabolic syndrome*

NT 2-01

Diet Setting to Decline Heavy Weight and Abdominal Circumference Of Obesity Clients OnSlimming Program In Pacific Slimming, Beauty & SpaMalang City

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ABSTRACT

Obesity is a state that exceeds the relative weight of a person. Factors that trigger the occurrence of obesity and overweight caused by lack of energy balance and lifestyle is not active in which both things can be changed. The principle of weight loss is to reduce body fat deposits on the tissue under the skin. Among women, today are many who follow various methods in losing weight, through directly following the activities of both a routine exercise program and a strict diet.One place where preparing weight loss programs and stomach circles include Pacific Slimming, Beauty & Spa Malang. Pacific implements a variety of ways in its program, the Body Treatment, and Diet Settings which target weight loss and stomach circumference within a specified time.

The purpose of this study was to determine the effect of dietary regulation on weight loss and stomach obesity clients on slimming program at Pacific Slimming Beauty & Spa Malang. This research is a quasi-experiment research with one Group Pretest-postest design with Control Group design research design. The research treatments were the dietary regulation of UD2 (P1), Combination Diet (P2), and Low Energy Diet (P3). The results showed that dietary arrangement gives effect to consumption pattern, and level of respondent consumption, where there is adecrease of body weight and stomach circumference. UD2 diet is an alternative dietary choice that can lose weight and stomach circumference of the most compared to other diets. The success of weight gain should be supported by nutrition counseling.

Keywords: *Diet Setting, Weight, Abdominal Circumference*

NT 2-02

Effects of Pilates Exercise on Anthropometry of the Obese Adolescents

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ABSTRACT

Background: Lack of physical activity and the abundance of essential nutrients may lead to obesity that affects an increased of Body Mass Index (BMI). This condition may cause various diseases. Pilates is a light intensity exercise which can be performed by obese teenagers. This study aims to examine the effect of pilates exercise on anthropometry of the obese adolescents represented by BMI.

Material and Methods: It was a Randomized controlled pre and post experimental trial. The inclusion criteria are adolescents aged 15-18 years old at the time of the study, meets category Obesity according to the WHO Growth Chart (adult BMI ≥ 30,2 yo – 18 yo BMI ≥ persentil 95), filling informed consent to participate in research, and able to understand instruction. The exclusion criteria are abnormalities of the limbs or spine, severe musculoskeletal pain complaints, history of surgery or fracture at lower limbs, on medication with benzodiazepines, antihypertensives (vasodilation), aminoglycoside antibiotics, chemotherapy, severe visual impairment, participating in another physical activity and balance training (yoga, martial arts, etc). at least 3 times per week which is still ongoing until the time of the study. Thirty students, obesity adolescents of SMKN 04 Semarang City, become participant.

Intervention: Subjects were randomly divided into two different groups. The control group were doing daily activities as usual, and the intervention group underwent pilates exercise. The exercise was held two times a week for six weeks.

Result: Both groups showed improvement in BMI throughout the study period. In the control group, there was a decrease in BMI (p = 0.165) but not statistically significant. For the treatment group, there was a statistically significant decrease in BMI (p = 0.001) between pre and post treatment. The decline of BMI in the treatment group was better than the control group but was not statistically significant (p = 0.954).

Conclusion: Pilates exercise may help improve anthropometry of the obese adolescents represented by BMI**.**

Keywords: *Pilates excercise, anthropometry, Body Mass Index (BMI).*

NT 2-03

Correlation Between Eating Habits on Pregnant Women with Infant Birth Weight in Coastal Area

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ABSTRACT

Introduction: Maternal and child health issues are still a priority in Southeast Sulawesi because there are coastal areas in Southeast Sulawesi that have unique topography, geography and demographics. Coastal communities have very distinctive characteristics that are influenced by environmental factors, seasons and market conditions, thus having specific problems related to pregnant women and newborns. The purpose of study, to analysis correlation between eating habits of pregnant women with birth weight of baby in coastal area.

Method: The design of this study was the observational analytic method with cross sectional approach. The population was mother who has maternity in coastal area of Kendari City. This was done from July 2016 to September 2016. Samples were taken randomly with simple random sampling and data were collected using a questionnaire. Data of eating habits were collected by food frequency questionnaire (FFQ). Data were analyzed by Fisher Exact test with significant level < 0,05.

Results: There were 156 respondents in coastal area of Kendari City. Most of the respondents were healthy reproductive age, 20-35 years old (86.5%), as housewives (87.8 %), with medium and low education level (46.2%), sufficient income (53.2%) and low risk obstetric status (80.8%). Most often eating fish (76.6%) and frequent consumption of vegetables (82.7%). There was correlation between frequency of fish consumption (p=0.01)9 and vegetables consumption (p=0.016) on pregnant women with birth weight of baby.

Conclusion: There was a significant correlation between eating habits of fish and vegetables on pregnant women with infant birth weight**.**

Keywords: *birth weight, coastal area, eating habits, pregnant women*

ED 1-01

Polymorphism of MTHFR C677T, A1298C, MSX1 and the Risk Factors of Non-syndromic Cleft Lips /Palate (NSCL/P: A Study in Sasak Tribe Lombok West Nusa Tenggara Indonesia)

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ABSTRACT

Background: The etiology of orofacial cleft as Non-syndromic cleft lips with or without palate (NSCL/P) are complex including genetic and environmental factors. We aimed to investigate the polymorphism of *MTHFR* C677T, A1298C *and MSX1* as the risk factor of NSCL/P in Sasak Tribe, Lombok Indonesia.

Methods: The study was a case control for 148 subjects from Sasak. EDTA peripheral blood was drawn from 35 children with NSCL/P-mother pairs and 39 healthy controls children-mother pairs. Molecular analysis of *MTHFR* C677T, A1298C and *MSX1* polymorphisms were done using PCR- RFLP. The risk factors were analyzed statistically using OR and Chi square test.

Results: Children and mother with at least one copy of the MTHFR 1298C allele had a higher risk of NSCL/P (p=0.036), OR 2.7, 95% CI (1.1-7.0). Polymorphisms MTHFR C677T and MSX1 were not showed as risk factor of NSCL/P (p>0.05). New sequence variation of c.469 + 12G>A was found near the splice site region of exon 1 MSX1 in an affected child.

Conclusions: MTHFR A1298C polymorphism increases the risk of NSCL/P in Sasak Tribe, Lombok, Indonesia. A novel sequence of MSX1 c.469 + 12G>A was found. This is different with other previous study. Further study with higher sample size may found more new novel polymorphisms.

Keywords : *MTHFR C677T, MTHFR A1298, MSX1, Orofacial cleft.*

ED 1-02

Polymorphism in 4'-UTR region of *PITX2* gene in vertical mandible asymmetry

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ABSTRACT

Introduction: Study of candidate genes is required to investigate the genetic causes of condylar height variation in vertical mandible asymmetry. However, studies on specific genetic pathways of condylar phenotype variation related to personal orthodontic diagnosis remain rare. *Pituitary Homeobox Protein Type-2* gene (*PITX2)*, a gene active in the Nodal Pathway that determines the left-right symmetry during embryogenesis, has been reported to be expressed and regulate skeletal-muscle development as well as differentiation of satellite cells in adult muscle. The aim of this study is to analyze the phenotypes of expressed *PITX2* gene and its polymorphisms in vertical mandible asymmetry.

Methods: Pre-treatment panoramic radiographs from 62 out coming orthodontics patients (20.7 ± 3.2) year old were analyzed using Kjellberg Symmetry Index. Subdivision of malocclusions that are limited to Angle's classification was recorded. DNA material was obtained using buccal swabs, followed by Polymerase Chain Reaction (PCR and Sanger sequencing with ChromasPro 2.13 software (Technelysium, Queensland, Australia and comparison to archival data from gene bank number ENSG00000164093 (www.ensembl.org).

Results: Genotype analysis showed 3 polymorphisms (rs72554076), rs761511445, rs372257787 in 4'-UTR of 16 subjects (25.8%) with various vertical mandibular asymmetry causing a C>A change at 47-105 in 13 patients, G>A change at 47-9 in 1 patient and G>T change at 46+100 in 2 patients, respectively. The characteristics of condylar height asymmetry and canine subdivision dominated in these subjects.

Conclusions: Identification of *PITX2* polymorphisms in condylar height asymmetry showed that skeletal characteristics of mandible vertically may influence the dental characteristics, especially the symmetrical zone.

Keywords: *PITX2* gene, condylar height, vertical mandible asymmetry, subdivision malocclusion

ED 1-03

Microdeletion of Azoospermia Factor (AZF) Region in Hypospadia patients : A potential predictor factor for infertility)

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ABSTRACT

Introduction: Hypospadia, a midline fusion defect of the male ventral urethra, is disorder of male external genital development occurring 0.7 – 4.5 per 10.000 live births. Hypospadia patients occasionally have fertility problem and genetic factor might be involved on this aspects. Microdeletion of the Y chromosome, notably in Azoospermia factor region (AZF) have been observed in some patients with cryptorchidism and severe defects of spermatogenesis. Since hypospadias is frequently associated with cryptorchidism and infertility, it is possible that AZF microdeletion may occur. This study aimed to investigate microdeletions of AZF region in patients with hypospadia as a potential predictor factor for infertility. AZFa microdeletion were associated to sertoli cell syndrome, while AZFb microdeletion lead to maturation arrest at the spermatocyte stage and AZFc microdeletion caused defect in sperm production.

Methods: Total of 60 hypospadia patients who admitted to CEBIOR were analyzed for AZF microdeletions during period of 2008 – 2016. DNA samples were analyzed by PCR-screening using several sequences-tagged-site (STS) markers from different region of the AZFa, AZFb, AZFc on Yq chromosome and SRY on Yp as internal control.

Results: Out of 60 analyzed cases, 3 (5%) patients showed microdeletion of AZF regions and only detected in AZFa region. Microdeletion in AZFa region, were related to sertoli-cell-only syndrome as an caused of azoospermian infertile males.

Conclusions: AZF microdeletions can be used as an infertility potential predictor in hypospadia patients and become important leading of genetic counseling related to possibility of infertility in the future.

Keywords: *Azoospermia Factor (AZF), Microdeletions, Hypospadia, Infertility*

ED 2-01

The Association Between Menstrual Cycles And The Severity Of Acne Vulgaris

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ABSTRACT

Introduction : Acne vulgaris (AV) is the most common skin disorder affecting teenagers, especially females. Menstruation is a hormonal cycle that is often associated with AV. The aim of this study was to prove the association between menstrual cycles and the severity of AV.

Method : This study was a cross-sectional study. The menstrual cycle comprised of menarche, menstrual flow, menstrual length and menstrual cycle regularity was the independent variable and the dependent variable was the severity of AV. Samples were taken from 120 female high school students, consisted of 4 groups: 30 students without AV, 30 students with mild AV, 30 students with moderate AV and 30 students with severe AV, respectively. The subjects were selected by consecutive sampling. The association between menstrual cycle and AV severity was analyzed by Kruskal-Wallis followed by Mann-Whitney, and Chi-square test. The differences of menstrual cycle between groups were tested by Mann-Whitney.

Results : The menarche, menstrual flow, menstrual length and menstrual cycle regularity between the groups without AV, mild AV, moderate AV and severe AV were significantly different. The menstrual cycle in severe AV was significantly different from groups without AV, mild AV and moderate AV, whereas among other groups were not significant. The differences of the menstrual regularity between other groups were not significant.

Conclusion : The menstrual cycle in female teenagers with severe acne were significantly different from those without acne and with mild or moderate acne. The more abnormal menstrual cycles, the more severe AV they had.

Keywords: Menstrual cycle, Severity of acne vulgaris

ED 2-02

Genetic Aspects of Cleft Lip and Palate: A Literature Review

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ABSTRACT

As one of the most ubiquitous craniofacial anomaly, constituting almost two thirds of all anomaly cases, cleft lip and palate (CLP) has been studied extensively. In Indonesia, the prevalence rate of CLP in children age 24-59 months is 0.08%. Epidemiologic studies suggest that there's genetic relationship to CLP occurrence since the prevalence rate is higher in Asian population (1:500) compared to Caucasian (1:1000) and African (1:2500). Therefore, genetic studies have been conducted to explore the role of genes in the pathogenesis of CLP. Various genes, including *Shh, Msx1, TGFβ3, IRF6, PDGFA,* have been noted mainly on account of their major contributing role to the development of the disease. The role of these genes and many others are reviewed in this article.

Keywords: *Cleft Lip and Palate, Embryogenetics, Genetic*

ED 2-03

Genetic and Epigenetic Influences on Orthodontic Tooth Movement

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ABSTRACT

Many studies in orthodontic have focused on evaluating the effect of various types of procedure and device on tooth movement. The occurrence of orthodontic tooth movement (OTM) is influenced by many factors, which are genetic, epigenetic, and environment. Orthodontic tooth movement is resulted from a series of physical, cellular, and molecular events on teeth and surrounding supporting structures, consisting of alveolar bone, periodontal ligament, neural tissue, and pulp tissue. These events result in an equivalent rate of alveolar bone resorption and apposition (bone remodeling) that favor tooth movement. Application of orthodontic forces on teeth induces changes in gene expression. Expression of various genes and certain pathways in controlling bone remodeling have been reported. As stated earlier, epigenetic factor is also believed to take crucial role in orthodontic tooth movement. Several researches have revealed the involvement of microRNA 21 (miR-21), a small noncoding RNA acting as posttranscriptional modulators, in osteoblastic and osteoclastic activities during orthodontic tooth movement. In addition to genetic and epigenetic factors, environment factor, such as plaque and diet also affect orthodontic tooth movement. Thus, understanding the interaction between genetic, epigenetic, and environment factors during orthodontic tooth movement, are necessary. This will benefit orthodontists in optimizing their orthodontic treatment result and developing the treatment techniques.

Keywords: *genetic; gene expression; orthodontic tooth movement*

ED 2-04

Genetic factors associated with Primary Failure of Eruption
A Literature Review

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ABSTRACT

Primary Failure of Eruption (PFE), a rare autosomal, non-syndromic disorder in problem of teeth eruption, has become a concern to be highlighted in orthodontic and molecular studies. Studies confirm that genetic is the etiology that cause the occurrence of PFE. Genetic defect in PTH1R is mainly associated with PFE as the gene that cause PFE. Disruption occurs to this gene suspected to cause structural and functional changes of the expressed PTH1R. Therefore, genetic studies have been conducted to analyze the role of gene in the development of PFE. Epigenetic aspect also contributes in study of PFE. The role of the genetic and epigenetic aspect of PFE are reviewed in this article.

Keywords: *Primary Failure of Eruption, Genetic, Epigenetic, PTH1R*

ED 2-05

Comparison of the Acute Effect of Light and Moderate Intensity Aerobic Exercise on Cortisol in Obese Adolescents

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ABSTRACT

Introduction: Obesity is a global health problem that contributes to 2.6 million deaths worldwide each year. Obese adolescents have 80% chance to become obese when grow adult. Aerobic exercise is exercise that is recommended for the obese but aerobic exercise that is done excessive has also adverse effect, which increases levels of cortisol. Vigorous aerobic exercise at least 60% VO2max intensity triggers the release of cortisol. Obese individuals may experience hypersensitivity HPA axis that enables increased levels of cortisol in the exercise below the threshold. This study was aimed to prove the difference of cortisol serum level in obese adolescents after light and moderate intensity aerobic exercise.

Methods: This was an experimental study with pre- and post-test group design. Thirty obese subjects were divided randomly into two groups, the first group received light intensity aerobic exercise (15) participants and the second group received moderate intensity aerobic exercise (15) participants. Participants underwent single bout aerobic exercise consist of 5 minute warming up, 20 minutes of core exercises (running and a 5-minute cooling down).

Results: There were no significant differences in serum cortisol levels before treatment in both groups (p=0,267), as well as cortisol levels after treatment (p=0,305. There was no significant difference in serum cortisol levels change after treatment in both groups (p=0,967).

Conclusion: light and moderate intensity aerobic exercise did not cause significant differences in serum cortisol levels in obese adolescents

Keywords: *Obesity, adolescent, cortisol, aerobic exercise*

ED 2-06

The Effect Of Dolanan Bocah Modification Dance On Balance In Obese Children Aged 7-10 Years Old

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ABSTRACT

Introduction: Obesity in children generates several problems including impaired balance and increases fall risk. Dolanan bocah modification dance is a simple and fun choice to give balance exercise in obese children. We aimed to study the effect of balance exercise using dolanan bocah modification dance on Pediatric Balance Scale (PBS) score in obese children aged 7-10 years.

Methods: This study used randomized controlled pre and post experimental study design. The study was conducted in Bendungan Elementary School Semarang between February and March 2017. Thirty obese children aged 7-10 years old with impaired balance were recruited. Balance was assessed with Pediatric Balance Scale before intervention and at the end of 6th week intervention. Subjects were divided into two groups: the intervention group and the control group. The intervention group was given dolanan bocah modification dance 3 times a week for 6 weeks, while the control group did daily activities as usual.

Results: There is a significant difference in the PBS mean change score (mean Δ PBS 5.4 ± 0.91), p <0.001 in the intervention group at the end of 6th week intervention compared to the control group.

Conclusion: There is significant improvement of balance on obese children measured by PBS, especially on intervention group. Dolanan bocah modification dance can be given to obese children to improve balance and decrease fall risk.

Keywords: *Balance; dolanan bocah modification dance; obese children.*

ED 2-07

The Effect of Circuit Training on Endurance Abdomen Muscle Assessed by 30 Seconds Sit Up test in Obese Children

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ABSTRACT

Introduction: Obesity in children raises several problems including decrease of endurance abdomen muscle because of fat accumulation especially in the abdomen. Circuit Training is an alternative choice to increase endurance abdomen muscle in obese children which is easy and fun. The objective is to know the effect of Circuit Training on endurance muscle abdomen in obese children aged 9-12 years.

Methods: This study used randomized controlled pre and post experimental study design. The study was conducted in Bojongsalaman 02 and Petompon 02 Elementary School Semarang between February and March 2016. Thirty obese children aged 9-12 years old were recruited. Endurance abdomen muscle was assessed with 30 seconds Sit Up test before intervention and at the end of 6th week intervention. Subjects were divided into two groups: the intervention group and the control group. The intervention group was given Circuit Training for 50 minute, 2 times a week for 6 weeks, while the control group receive none.

Results: There was a significant difference in delta Sit Up test between Circuit Training group (4,3±1,18) and control group (1,1±1,67) with *p*=0,000. The Circuit Training group had higher endurance muscle than control group.

Conclusions: There was a significant difference in the abdominal endurance change between intervention group and control group.

Keywords: *Circuit Training, endurance, Sit Up test.*

ED 2-08

Erectile Dysfunction Incidence Following Transurethral Resection Prostatectomy Compared With Transvesical Prostatectomy In Patient With Prostate Enlargement In The Kariadi Hospital, Semarang

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ABSTRACT
Introduction: Prostate gland is the most common male organ to have an enlargement, it can be benign or malignant. Benign prostat enlargement is the second most frequent diseases in urology after urinary tract stones. In Indonesia, benign prostate enlargement is the second most frequent diseases after urinary tract stones and expected to be found in 50 % of men over the age of 50 years old. Surgery treatment either with Transurethral Resection Prostatectomy (TUR-P) nor Transvesical Prostatectomy (TVP), has advantages and side effects. Side effects from closed prostatectomy surgery such as trauma to the urethra, erectile dysfunction, and corrupt sphincter muscles, causing incontinence. This study aims to compare the erectile dysfunction incidence following transurethral resection prostatectomy compared with transvesical prostatectomy in patient with prostate enlargement

Methods: From July 2012 to july 2013 there is 60 benign prostate hyperplasia patients with 30 patients post transurethral resection prostatectomy and 30 patients post transurethral resection prostatectomy. We initially measured the age, residency, profession, education, IPSS score, IIEF-5.

Result: There were significant difference in statistic from IIEF-5 prostatectomy with transurethral and transvesical (TUR-P 22,70±3,27 and TVP 21,27±3,28 p=0,08) but there were no significant difference from clinical (TUR-P 22,30 and TVP 23,40) as well as another variable age, residency, profession, education, IPSS score.

Conclusions: There is no significant differences in the incidence of erectile dysfunction on transurethral resection prostatectomy compared with transvesical prostatectomy.

Keywords: *benign prostate enlargement, transurethral resection prostatectomy, transvesical prostatectomy, erectile dysfunction.*

ED 2-09

Mutation Analysis Using Multiplex Ligation-Dependent Probe Amplification (MLPA and High-Resolution Melting Curve (HRM in Isolated Hypospadias Patients)

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ABSTRACT

Introduction: Hypospadias, one of the most common disorders of male genitalia is thought to have an increased trend in prevalence worldwide. Two important genes involved in the development of male external genitalia include *SHH* and *WNT5A.* Currently there was no study using multiplex ligation-dependent probe amplification (MLPA) and high-resolution melting curve (HRM) for hypospadias. The increased frequency in the last 20 years has been thought to be associated with environmental changes especially in the increased risk of exposure to chemical compounds. We aimed to identify mutations in hypospadias patients using MLPA and HRM.

Methods: Samples are 17 Indonesian and 27 Pakistani DNA with a clinical diagnosis of hypospadias. MLPA and HRM were employed, continued with Sanger sequencing if aberrant patterns are found.

Results: No abnormalities in CNVs were found using MLPA, and aberrant patterns were found using HRM in two samples and further analysis using Sanger sequencing resulted in translocations of chromosome 8: 143516989-143517080 (92 nt) and 143516981-143517080 (100 nt) in two samples consecutively.

Conclusion: Translocations of chromosome 8 were found in two samples of hypospadias patients.

Keywords: *Hypospadias, MLPA, HRM, SHH, WNT5A*

EP 1-01

The Comparison of Efficacy between Hatha Yoga and Tai Chi at FEV1 and FVC in COPD Patients

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ABSTRACT

Introduction: Mortality due to COPD is ranked 6 out of 10 causes of death in Indonesia. Hatha Yoga and Tai Chi is a kind of breathing exercise that have been proven beneficial in patients with impaired lung function however the effectiveness between both exercises in COPD patients has not been known. The aim of this study is to analyze the differences in the effectiveness of Hatha Yoga and Tai Chi at the FEV1, FVC and FEV1/FVC in patients with COPD.

Method: This study was quasi-experimental two groups pre and post design. The target population is adult patients diagnosed with COPD in the BKPM Semarang. FEV1 and FVC were measured before and after Hatha Yoga and Tai Chi exercise.

Results: The effectiveness of Hatha Yoga and Tai Chi at the FEV1, FVC and FEV1/FVC was not significantly different between groups. Both breathing exercises have the same principle in training respiratory muscles in a slow motion rhythm.

Conclusion: Hatha Yoga and Tai Chi can be used as a training program in COPD patients since both are safe, inexpensive and do not need a special place to do. Both exercises have the same effectiveness in improving the functional capacity of the lungs in patients with COPD.

Keywords: *Chronic Obstructive Pulmonary Disease (COPD), Forced Expiratory Volume in 1 second (FEV1), Forced Vital Capacity (FVC), Hatha Yoga, Tai Chi*

EP 1-02

The Association between Batik Making Process with Electrocardiogram, Pulmonary Function, and Musculoskeletal Disorder in Batik Artisan

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ABSTRACT

Introduction: Batik making process produces smoke inhaled by batik artisans that may cause damage to cardiorespiratory function. Furthermore, it is performed in sitting position for a long period which can lead to musculoskeletal disorders. The association has not been established yet. This study aims to determine the association between the batik making process with electrocardiogram, pulmonary function, and musculoskeletal disorder in batik artisan.

Methods: An observational study with cross sectional design was conducted in Semarang between February-March 2015. Two groups each having 15 people, batik artisans exposed to smoke and unexposed subjects as control, were taken. Subjects' characteristics, exposure's characteristics, ECG test, and pulmonary function test were taken from each subject. While in 26 batik artisans, working position was assessed using RULA and musculoskeletal disorders by interview based on Nordic Body Map questionnaire.

Results: The analysis showed significant QT interval prolongation (p=0.037), but no significant PR interval prolongation (p=0.53) on batik artisans as compared to unexposed subjects. Therefore, batik artisans were at an eight-fold risk of having ECG abnormalities. The mean percentages of FVC (p=0.016), FEV_1 (p=0.038), and PEFR (p=0.037) were lower and impaired lung functions were higher (p=0.002) in batik artisan. Musculoskeletal disorder had a significant association with working position (p=0,008) but insignificant with the working period (p=0,354).

Conclusion: Batik making process is associated with cardiorespiratory function and musculoskeletal disorder in batik artisan. Further studies are necessary to elaborate the mechanism of these associations.

Keywords: *batik, electrocardiogram, pulmonary function, musculoskeletal disorders*

EP 1-03

Lean Healthcare Approach to Minimize Waste in Basic Emergency Obstetric and Newborn Care (BEMONC) in Brebes and Semarang City, Central Java

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ABSTRACT

Introduction: There are 5 cities that contribute as the highest maternal death region within Central Java in 2016, including Brebes District and Semarang City. Optimalization of Basic Emergency Obstetric and Newborn Care (BEMONC) is an effort to lessen maternal death. Lean Healthcare is one of quality improvement theories in optimizing value-oriented services.

Methods: Qualitative study with descriptive analytic approach was conducted at Jatibarang Primary Health Care (PHC), Brebes and Halmahera PHC, Semarang. There was 6 informants in each PHC including Doctor, Midwife, Nurse and also patient's family. In depth interview and observation was done to assessing waste in service process.

Results: Based on Kepmenkes 856 in 2009, Value stream mapping description in both PHCs were ideal. Waste between normal delivery and referred process in Jatibarang PHC was 20%: 25%. While in Halmahera PHC was 42.9%: 50%. This concluded that the process of BEMONC services in Jatibarang PHC has already been lean while in Halmahera PHC has not been lean. Waste in Jatibarang PHC was unnecessary transportation, motion and waiting. Waste in Halmahera PHC was unnecessary transportation, waiting, underutilized abilities of people and defect. Root Cause Analysis (RCA) in Jatibarang PHC was found that layout, Standard Operating Procedure (SOP), Expanding Maternal and Neonatal Survival (EMAS) and communication system were affecting BEMONC process. RCA in Halmahera PHC was found to be similar as Jatibarang PHC but there were additional factor, including midwife
competence.

Conclusion: Unnecessary transportation and waiting were found as predominant waste in both PHCs. The main causes was layout, EMAS, and communication systems.

Keywords: *BEMONC flow, lean healthcare, minimizing waste*

EP 1-04

Tuberculosis screening and chemoprophylaxis in child contacts: A situational analysis in the community setting

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ABSTRACT

Introduction: Contact investigations and chemoprophylaxis, is used to reduce morbidity and mortality in children living with positive adult TB. This study aimed to evaluate the implementation of TB screening and chemoprophylaxis in child contacts, and to identify practical barriers experienced by the staff of Community Health Centre (CHC).

Methods: A combination of quantitative and qualitative research methods was chosen. Home visits were done to obtain relevant information. Semi-structured interviews and a FGD were performed with staff members to gain in-depth information about the current practices.

Results: Out of the 67 child contacts, only 5 (7.5%) were screened on caregiver's initiative. None was started on chemoprophylaxis. In-depth interviews and FGD with the staff identified shortcomings in the management of care, lack of awareness and knowledge among staff, limited understanding of caregivers, and practical obstacles related to the rural setting.

Suggestions A comprehensive approach is needed that matches the site-specific shortcomings and challenges.

Keywords: *tuberculosis; contact screening; chemoprophylaxis; children; household contacts; close contacts; isoniazid preventive therapy.*

EP 1-05

Factors That Influence The Quality Of Doctor's Services in Children's Diarrhea Cases in Indonesia

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ABSTRACT

Introduction: Diarrhea is one of the diseases that can increase child mortality rate. More than 2.3 billion cases and 1.5 million children under five years die from diarrhea. Good quality doctors can have positive influence on the quality of service. Outcome of good service is the increased level of health, including reduced child mortality caused by diarrhea. Analysis of the quality of doctors in Indonesia needs to be done to improve the quality of health workers.

Methods: This study was a quantitative study using secondary data analysis Indonesian Family Life Survey (IFLS 2007) and using cross-sectional design. IFLS 2007 data taken from 13 provinces. Analysis of the quality of doctor assessed from vignette question on the health centers block and private practice block by scoring out each question that can be answered. Data was analyzed by bivariate test with independen T test using STATA.

Results: Number of doctors as respondent were 786. The average correct answer of doctor is 22.25 ± 7.9 out of 56 questions. Doctors with the working periode <6 years have a score of 2.43 better than doctors with the working periode more than 15 years and 6-15 years (diff: 2.178). Health workers are trained better than those who did not. The factors that most affect the quality of doctor is working periode, participation in training diarrhea, and regional of work.

Conclusion: The quality of doctor in Indonesia is still lacking. Improved quality of the doctor can be done by considering the year of graduation, participation in training and regional.

Keywords: *diarrhea, quality of doctors, IFLS*

EP 2-01

BMI correlated to dietary pattern of Indonesian college students lives in Taipei city, Taiwan

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ABSTRACT

Introduction: Referring to the phenomenon of college students who live abroad tend to have the difficulty of food access in the country which has different cultural food and the lack of intention to prepare their own food. Those conditions may encourage them for getting overweight around 21% due to having careless eating habits, such as consuming ultra-processed food. The main purpose of this study is to measure the correlation between body mass index (BMI) and gender, dietary pattern (DP), food access (FA), and meal preparation (MP) which are not known.

Method: A total of 100 Indonesian college students who lived in Taipei city, Taiwan participated in the descriptive study for measuring variables i.e. socio-demographic, BMI, DP, FA, and MP. Statistical analysis was using chi-square test and frequency descriptive.

Results: The findings showed 46% female respondents with normal BMI, 53% respondents with normal BMI tended to have the dependency in MP, 47% respondents with normal BMI had easy access to food, 55% respondents with normal BMI were trending to have the healthy diet, and 53% respondents with normal BMI had dinner time more than 6 pm. The significant correlations were found between BMI and gender, MP, and dinner time (p=0.011, χ2=11.111; p=0.033, χ2=13.680; p=0.017, χ2=15.530; respectively). However, There were no significant correlations between BMI with FA and DP (p=0.769, χ2=3.307; and p=0.169, χ2=9.087; respectively).

Conclusion: This study suggests that normal BMI tends to have in the female, but they have dependency in meal preparation and doing late in dinner more than 6 pm.

Keywords: *body mass index, college students, dietary pattern*

EP 2-02

Association of Traumatic Brain Injury with Cognitive Impairment

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ABSTRACT

Introduction: Traumatic Brain Injury (TBI) is a major problem in the community. Advances in the management of traumatic brain injury can reduce mortality, but their sequelae in term of cognitive impairment can impact quality of life. We aimed to determine the association of traumatic brain injuries with cognitive impairment.

Methods: This is a cross sectional study, conducted in dr. Kariadi General Hospital Semarang. Subjects were patients with mild to severe brain injury, sellected using consecutive sampling technique. Assessment of cognitive impairment using MMSE and CDT performed in patients with a history of brain injury in the previous 3-12 months were then analyzed with a statistical program. The association of traumatic brain injury and its confounding factors with cognitive impairment considered to be significant when the value of $p < 0.05$.

Results: There were 32 subjects with traumatic head injuries age 35.16 (SD = 14.79 years) including 16 (50.0%) subjects with mild traumatic brain injury, 13 (40.6%) subjects with moderate traumatic brain injury and 3 (9.4%) subjects with severe traumatic brain injury. MMSE revealed that 3 (9.4%) subjects were cognitively impaired, while 8 subjects had abnormal CDT score. In the group of age ≥50, age had a significant association with lower CDT scores ($p = 0.047$). Significant associations were found in moderate to severe brain injury with impaired orientation ($p = 0.043$) and with attention and calculation ($p = 0.033$).

Conclusion: There is significant association between the degree of traumatic brain injuries with cognitive impairment.

Keywords: *traumatic brain injury, cognitive impairment*

EP 2-03

Phenylalanine and Tryptophan Intake of Hyperactive Children With Autism

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ABSTRACT

Objective: To understand the relationship between phenylalanine and tryptophan intake to hyperactivity of children with autism.

Methods: A survey analytic research with cross sectional approach which involves 20 subjects. Phenylalanine and tryptophan intake were independent variables of this study that collected by SQ-FFQ method, and hyperactivity of children with autism as the dependent variable that measured by observation based on DSM-IV guidelines.

Result: Eight (40%) children had low hyperactivity, 9 (45%) children had moderate hyperactivity, 2 (10%) children had severe hyperactivity and 1 (5% chil had very severe hyperactivity. Mean phenylalanine intake was 4899,74mg(±1543,42) with maximum and minimum intake respectively 7735,42mg and 1843,88mg. Tryptophan intake was 1153,91mg(±384,99) with maximum and minimum intake respectively 1953,89mg and 367,69mg. There was statistically significant relationship between phenylalanine intake and hyperactivity (p=0,034; r=0,477) also tryptophan intake and hyperactivity (p=0,026;r=0,492).

Conclusion: There is a relationship between intake of amino acid phenylalanine with hyperactivity of children with autism, and there is a relationship between the intake of amino acid tryptophan with hyperactivity of autistic children.

Keywords: *autism, dopamin, hyperactive, phenylalanine, serotonin, tryptophan*

EP 2-04

Effects of Smoking On Differential Leucocyte Count Between Smokers and Non Smokers

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ABSTRACT

Background: Smoking is one of the global problems causing different disease. Smoking cause variation in different parameters of blood. Smoke exposured causes increasing inflammatory cytokines release from the epithelial cells. All of them can influence the growth, differentiation and activation of leucocytes. The aim of this research was to compare the effect of smoking on differential leucocyte count between smokers and non-smokers.

Methods: A crosssectional comparative study was conducted in State Polytechnic of Jember. Thirty subjects which is consist of 15 smokers and 15 non smokers were included in this study. Differential leucocyte count was estimated by manually method. Independent T- test was applied for parametric data and Mann Whitney U test was applied for non parametric data, p-value less than 0.05 was considered statistically significant.

Results: Mean±SD of neutrofil for smokers was 54,87±5.3 and for non smokers was 59,8±5,9 (p=0,024); $p < 0,05$. Mean±SD of lymphocyte for smokers was 38,49±4,9 and for non smokers was 33,6±5,8 ($p = 0,035$; $p < 0,05$). Mean±SD of monocyte for smokers was 6,93±1.5 and for non smokers was 6,53±1,8 ($p = 0,534$; $p > 0,05$). P-value of eosinofil and basophyl for smokers and non smokers was $p = 1,0$; $p > 0,05$).

Conclusion: The study showed that the lymphocyte level of smoker group was higher than the non-smoker group.

Keywords: *smokers, differential leucocyte count*

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EP 2-05

Correlation between 25-hydroxyvitamin D levels and leucocyte count, neutrophil limfocyte ratio, c-reactive protein in elderly with anemia and non-anemia

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ABSTRACT

Introduction: Anemia increase along with aging. 25-hydroxyvitamin D deficiency is associated with anemia of inflammation in the elderly involving inflammation marker. In this study we attempted to investigate correlations and differences of 25-hydroxyvitamin D levels and leucocyte count, NLR, CRP levels in elderly with anemia and non-anemia.

Method: This study was an observational cross sectional conducted in 40 elderly with anemia and 38 eldery with non-anemia. 25-hydroxyvitamin D, leucocyte count, NLR and CRP, were examined. For statistical analysis, Pearson and Mann Whitney analysis were conducted.

Results: There were a significant correlation and differentiations between 25-hydroxyvitamin D levels (p = 0, 001;0.000), leucocyte count (p = 0,0032;0.022), NLR p = 0,0013;0.002) and CRP levels (p = 0,002;0.000) in elderly with anemia and non-anemia.

Conclusion: This study showed that there were correlations and differences between 25-hydroxyvitamin D and leucocyte count, NLR, CRP in elderly with anemia and non-anemia.

Keywords :*elderly, anemia, 25-hydroxyvitamin D, leucocyte count, NLR, CRP*

EP 2-06

Variant method of age estimation based on dental examination

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ABSTRACT

Age estimation method from dental are one of many age estimation methods in forensic identification process which can be done to mass disaster victim, both alive and death victim, and in law case which need individual age estimation. As the hardest material from body, dental are the best media in estimating individual age. Age estimation from dental can be done since a person is 5 months intra uterine. Various age estimation method from dental have been developed. The target of this essay is to define age estimation method from dental which are most precise to be applied to required identification cases. The success of age estimation from dental selection will lead to the accurate individual age estimation on forensic identification process.

EP 2-07

Practice Of Hand Washing in Children Using Educational Media "Magical Box, My Hands Clean Healthy Life"

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ABSTRACT

Introduction: Hand washing is an important daily activity. Many diseases could be protected with this good habit. A proper hand washing method is with rubbing and twisting knuckles, finger nails, thumbs and wrists. Our survey had found that children aged 5-6 years in PAUD Labschool UMC in Cirebon can not wash their hands properly. The objective of this study is to improve the ability of children's hand washing practice 5-6 years using educational media "Magic Box, My Hand Clean My Healthy Life".

Methods: The type of study is Classroom Action Research with three cycles, consist of 2 meetings in one cycle, and each cycle consists of planning, implementation, observation and reflection. Data collection used descriptive analysis techniques, in the form of documents, and observation.

Results: The results showed that this educational media could improve children's handwashing practice. The first cycle of children's hand washing skills began to grow 49%, evolving as 51% expectations. While the second cycle develops as expectations rose to 69%, the third cycle of children's handwashing ability began to grow 16%, and Growing as expected 84%.

Conclusion: The educational media "Magic Box, My Hand Clean My Healthy Life" could increase the rate of hand washing in children aged 5-6 years, PAUD Labschool UMC in Cirebon.

Keywords: *Handwashing, Educative Media "Magic Box"*

EP 2-08

Board Game as An Educational Tool for Dengue Prevention Knowledge for Schoolchildren

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ABSTRACT

Introduction: Dengue fever continues to be a major public health problem in Indonesia, with significant impact on children. There are some programs from government to reduce the incidents, but there are no programs with focus to schoolchildren. Health education is a major means for prevention and control of dengue incidents. Schoolchildren should have a knowledge about prevent the dengue incidents, with play a game, they can learn the new information with fun. This study tried to develop the learning media to prevent the dengue fever for schoolchildren.

Method: Quasy experiment was use as a research design with pre and post with control group, total of the sample is 92, with 46 respondents for each group. Paired t-test was used to analyse the different value of the average from each group, and pooled t-test for both group. The study was approved by the Research Ethics Committee of Faculty of Nursing Universitas Indonesia No. 103/UN2.F12.D/HKP.02.04/2017.

Results: Before intervention, both group had the same knowledge score about dengue prevention. They had less score for biology prevention. After intervention, in intervention group showed increased knowledge about dengue as indicated by correct responses compared to the control group. And there was an effect of board game to knowledge (p=0,000).

Conclusion: An educational board game can be specifically designed to improve knowledge about dengue in different group settings for schoolchildren. For the future study can be the best way to include the family in the game.

Keywords: *Board Game, Dengue Fever, Educational Tool, School children*

EP 2-09

Compliance of Iron Suplementation, Prevalence and Determinant Of Anemia in Pregnant Women

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ABSTRACT

Objective: To identify the prevalence of anemia and compliance of iron supplementation, and to analyze factors related to anemia in pregnant women.

Methods: This study was conducted in the work area of Rowosari Public Health Center, Semarang. Cross sectional study was held on September-November 2016. Participants were 22-40 weeks pregnancy women. Data collection was done by measuring blood hemoglobin concentration with Hemocue and interview using questionnaire. Statistical analyses with 95% confidence intervals were considered to be significant if $p < 0,05$ and 95% CI of OR did not pass 1.

Results: Among the 90 participants, the prevalence of anemia was 31.1%. Compliance rate of iron consumption were 71.1% (47.8% fully adherence and 23.3% partial adherence). The results of bivariate analysis showed partial compliant (OR = 8.67 (95% CI = 1.05-71.69, *p = 0.03)* and parity (OR = 10.17 (95% CI = 1.09-95,65; *p = 0.03)* as anemia risk factor. Education level, knowledge, gestational age, ANC visit, gestational age and income level were not associated with anemia.

Conclusion: There are significant association between compliance of iron supplementation and parity with anemia in pregnant women. The government needs to improve compliance of iron supplementation by involving family and community empowerment to reduce prevalence of anemia.

Keywords: *Anemia, pregnancy, iron supplementation, compliance*

EP 2-10

Minimizing Waste in Comprehensive Emergency Obstetric and Newborn Care (CEMONC with Lean Hospital at Brebes and Semarang City, Central Java

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ABSTRACT

Introduction: Brebes and Semarang are regions with the highest maternal death within Central Java in 2016. There are no hospital standards synchronization with quality of care to ensure efficiency and punctuality. Lean Hospital is expected to minimize waste in CEMONC flow.

Methods: Qualitative study was done in type B hospital at Brebes Public Hospital and KRMT Wongsonegoro Hospital in Semarang. There were 15 samples from hospital staffs and 7 samples from postpartum patients taken from each hospital. Observation and in depth interview were done to assess waste in CEMONC flow.

Results: Length of Stay (LOS) in CEMONC at both hospitals was optimal during observation. Waste percentage during observation in Brebes Public Hospital and KRMT Wongsonegoro Hospital were 35.8% and 25 % respectively. Maximum value of waste in the process was 30% thus Brebes Public Hospital was not in lean condition. Waste in Brebes Public Hospital was motion, waiting, overprocessing, transport, defect, and human potential. Waste in KRMT Wongsonegoro hospital was motion, waiting, transport, defect, and human potential. Root Cause Analysis (RCA) in Brebes Public Hospital showed that human, standard operating procedure (SOP), hospital layout and facility factor were major factors affecting CEMONC flow. While RCA result in KMRT Wongsonegoro Hospital was found to be the same as Brebes Public Hospital, SOP however was not one of the affecting factors of CEMONC flow.

Conclusion: The common waste was waiting and RCA of waste waiting from both hospitals were facility and hospital layout factor.

Keywords: *CEMONC flow, lean hospital, minimizing waste*

EP 2-11

Correlation Between Characteristics of Aneurysms with Rupture of Intracranial Aneurysms

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ABSTRACT

Introduction: Rupture of intracranial aneurysms are the most common (85%) causing spontaneous subarachnoid hemorrhage (SAH), which is a medical urgency and can lead to morbidity and mortality. The asymmetric and incomplete shape of the Willis circle may be a risk factor for aneurysm rupture. Multidetector computed tomography angiography (MDCTA), as a non-invasive diagnostic tool, has been widely used in the imaging of cerebral blood vessels.

Aim: To know correlation between characteristics of aneurysms with intracranial hemorrhage were diagnosed using CT angiography

Methods: We use cross-sectional study in intracranial aneurysms patient that has been examined by MDCTA (July 2012 - June 2016). Sampling was done by consecutive sampling. The characteristics (shape, location, number and size) of aneurysms were evaluated by two independent radiologist from MDCTA results. Bivariate analysis using chi-square statistics.

Results: The most of characteristics aneurysm was saccular shape 68.9%, size ≥ 7 mm 87.5%, located in the posterior circulation 66.7% and single 66.7%.

Conclusion: Characteristics of intracranial aneurysm (shape, location, number and size) is not correlation with intracranial hemorrhage cases.

Keywords: *Intracranial Aneurysm, MDCTA, characteristics of aneurysms*

EP 2-12

Duration of Spraying Effect to Neurological Disorder Among Farmers in Purworejo, Indonesia

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ABSTRACT

Introduction: Pesticides are highly used in agricultural production to maintain high product quality, but adverse effects of pesticide among human regarding on previous studies were found neurotoxic. Beside, pesticide illegal formulas are using in Indonesia possibly causing worse neurotoxic impact than other countries. Previous study in Brebes was found that symptoms of neurological disorders appeared possibly related to pesticide exposure. This study aimed to determine duration of spraying activity to neurological disorder symptom among farmer in Purworejo as the biggest seeds resource in Indonesia.

Methods: A cross sectional study was done in Purworejo District between April-May 2016. Total sample of this study were 125 farmers which collected by purposive sampling. Restriction was done among male farmer due to frequency of spraying activity. Questionnaire was used to collected neurological disorder, PPE usage, duration of spraying, personal hygiene, rice field area, age, BMI, education, monthly income. Regression logistic was done to analyze duration of farming effect to neurological disorder after confounders was controlled.

Results: Proportion of neurogical disorder for duration of spraying ≥36 hours/year was 8.16%. Logistic regression showed that duration of spraying was possibly as risk factor of neurological disorder after controlled by confounders (monthly income, education level, rice field area, PPE and personal hygiene) (OR = 1.706; 95% CI 0.323 to 9.009).

Conclusion: Duration of spraying was found as possible risk factor of neurological disorder among farmer. PPE should be used especially mask along spraying process and good behavior of pernal hygiene to reduce the risk of neurological disorder symptom.

Keywords: D*uration, neurological disorder, sprayer, pesticide, farmer*

EP 2-13

The Adherence of Taking Medicines with Conversion of Acid Fast Bacillus of Pulmonary Tuberculosis Patients with Positive Acid Fast Bacilli (Retrospective Cohort Study In The Center For Pulmonary Health Semarang)

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ABSTRACT

Introduction: Tuberculosis (TB) remains a significant health problem in Indonesia. One of indicators to monitor and evaluate TB program is determine smear conversion rate. The study aimed to analyze association between the adherences of taking medicines with conversion of acid fast bacillus of pulmonary tuberculosis patients with positive acid fast bacilli.

Methods: This study used a cohort study with retrospective design. Samples between exposed study groups and unexposed study groups were 66 smear positive pulmonary tuberculosis patients in the Center for Pulmonary Health Semarang using purposive sampling technique. Data was analyzed using chi square.

Results: The results of study obtained percentage of male respondents was almost similar, and aged 15-45 years old at most amounted to 68.2%. The adherence to medication with conversion rate with p value= 0.011, RR = 4,712 (CI: 1.341 to 16.566).

Conclusions: The adherence to medication significantly related with smear conversion in patients with smear-positive pulmonary TB in The Center for Pulmonary Health Semarang. It is suggested to give health education to patients with a variety of media and use cards to control the regularity by the supervisor of tuberculosis medicine.

Keywords: *Tuberculosis, Conversion, Acid Fast Bacillus, Adherence*

EP 2-14

Profile of Heavy Metals as Environmental Toxicants in Volcanic Area Dieng, Central Java, Indonesia

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Introduction: The volcanic area is known as one of natural environmental toxicant resource, which is an unconscious danger for community living nearby the area. Heavy metals exposure, particularly arsenic (As), lead (Pb), cadmium (Cd), copper (Cu) and mercury (Hg) rank among the priority metals that are reported to cause many health problems in human.

Aim: This study's purpose is to provide a preliminary data of heavy metals profile in a volcanic area, Dieng, Central Java, Indonesia. The data could be an important data for further research concerning the human health effect of environmental toxicant in volcanic area rich country, such as Indonesia.

Method: Participants were selected by purposive sampling method. Hair samples (about 200 mgr, around 1 cm from scalp) were collected from 26 participants. Heavy metals concentrations were analyzed using SEM EDX method.

Results: Among 26 participants we found that 7 (26.9%) were contaminated with As, 18 (69.2%) Pb, 18 (69.2%) Cd and 14 (53%) Cu. The mean concentration of As is 0.101 (SD ±0.099), Pb 0.332 (SD ±0.172), Cd 0.044 (SD ±0.031) and Cu is 0.572 mass% (SD ±0.162).

Conclusion: This preliminary data has proven that community living nearby volcanic area has a high risk by natural heavy metals exposure.

Keywords: *Volcanic area, heavy metals, natural environmental toxicants*

EP 2-15

The Efficacy of Education with the WHO Dengue Algorithm on Correct Diagnosing and Triaging of Dengue-Suspected Patients; Study In Public Health Centre

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ABSTRACT

Introduction: Correct diagnosing and triaging dengue fever remains clinical, but is difficult because of unspecific flu-like symptoms. Best tool at the moment is the easy–to-use 2009 WHO guidelines. We aimed to investigate the efficacy of educational intervention with the (adapted and translated algorithm from the 2009 WHO dengue guideline to healthcare providers in the Indonesian primary health care setting of Central Java.

Methods: Quasi-randomized intervention study implemented in two Public Health Centres (PHCs), one being intervention and the other control. Intervention consisted of educational actions on healthcare providers with a presentation, hand-outs and posters. All patients with fever seen in policlinic or emergency department were included. Data were collected with a participatory observation using the WHO algorithm as a guidance.

Results: Pre-intervention, a total of 88 patients (n=38) intervention group; n=50) in the control group, and post-intervention, a total of 231 patients (n=105) in the intervention group; n=126 in the control group were included. Pre-intervention, correct diagnosing and triaging was not significantly different (63.2% vs 64.0% ; p=0.935), while post-intervention, the intervention group scored higher (75.2% vs 62.7% ; p=0.041). However, in both pre- and post-interventional phase, more than 50% of the cases in 19/22 domains was not investigated by the intervention group.

Conclusion: Statistical analyses showed a significantly better outcome in correct diagnosis in the intervention group. However, results are considered inconclusive due to incompleteness of relevant information, which most probably leads to many false positive correct diagnoses and triaging.

Keywords: *DHF, WHO guidelines, primary care setting*

DG 1-01

Comparison of serum p substance levels in pre and post thyroid surgery patients given 0.25% bupivacaine analgesic by bilateral superficial cervical plexus block (BSCPB)

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ABSTRACT

Introduction: Thyroid surgery can cause serious pain and increase in serum P substance. Although the use of regional anaesthesia in thyroid surgery remains controversial, the use of regional anesthesia with bilateral superficial cervical plexus block (BSCPB) technique using 0.25% bupivacaine in thyroid surgery is thought to reduce the need of analgesics. The aim of this study was to evaluate the efficacy of BSCPB using 0.25% bupivacaine under general anesthesia in thyroid surgery.

Methods: This study was a double-blinded randomized clinical trial with a total of 36 adult patients undergoing thyroid surgery. Patients underwent regional anesthesia with BSCPB technique were divided into 2 groups, i.e. the treatment group administered with 0.25% bupivacaine compared with the control group administered with 0.9% NaCl. Both were investigated for serum P substance levels, hemodynamic status, Visual Analogue Scale (VAS) for pain scale, and fentanyl needs, pre- and postoperatively.

Results: There were 7 male (19,4%) and 29 (80,6%) female subjects, with an average age of 44,69±10,41 years old. The average duration of the surgery was 238,06±53,14 minutes. There was a significant difference in P substance levels between the treatment group with 0.25% bupivacaine and the control group post-operatively (p = 0,001). There was a significant decrease in the level of P substance between before and after surgery in the treatment group (p = 0,004), while 0,9% NaCl was failed to reduce the level of P substance.

Conclusion: The administration of 0,25% bupivacaine in BSCPB technique has been decreasing the level of serum P substance, the value of VAS, and the need of fentanyl postoperatively.

Keywords: *P substance, 0,25% bupivacaine, bilateral superficial cervical plexus block, thyroid surgery*

DG 1-02

The viability of doxorubicin-treated human breast cancer stem cells is associated with the PCNA and BIRC5 gene expression

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ABSTRACT

Introduction: Breast cancer stem cells (BCSCs) are identified as side populations in breast cancer cells owing stem cell properties and tumorigenic characteristics. Some studies revealed that breast cancer therapy (chemotherapy and hormone therapy led to BCSC enrichment which contributed to therapy resistance. Our recent *in vivo* study using Next Generation Sequencing has demonstrated that PCNA - the proliferative gene - and BIRC5 – the anti-apoptosis gene – were under-expressed in human breast tumors after neoadjuvant chemotherapy. This study aimed to verify the role of PCNA and BIRC5 expression in doxorubicin-treated human BCSCs and its association with cell viability *in vitro*.

Method: Human BCSCs (ALDH+) cells were treated with 0.25 uM of doxorubicin for 2, 4, 6, 8, 10, 12, 14 days, respectively. Cell viability was measured using trypan blue exclusion assay and the expressions of PCNA and BIRC4 mRNA were determined using qRT-PCR.

Results: This study demonstrated that the viability of ALDH+ BCSCs decreased after 2 days and increased again after 8 days of doxorubicin treatment, indicating the decrease of doxorubicin sensitivity. Interestingly, PCNA and BIRC5 genes were modulated parallel to the modulation of cell viability during doxorubicin treatment of human BCSCs.

Conclusion: In conclusion, we suggest that the PCNA and BIRC5 expressions play an important role on the BCSCs viability which associated with the sensitivity of doxorubicin treatment.

Keywords: *human breast cancer stem cells, cell viability, PCNA, BIRC5, doxorubicin*

DG 1-03

The Effectiveness of Phaleria Macrocarpa and Chemotherapy in Increasing Caspase 3 and Apoptotic Index in Epidermoid Carcinoma

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ABSTRACT

Introduction: Chemotherapy management of epidermoid carcinoma of the skin is relatively expensive and has toxic effects on vital organs. *Phaleria macrocarpa* is a medicinal plant that is often used as an anti-cancer. This study aims to prove the effectiveness of the *Phaleria marcocarpa* extract*, paclitaxel-cisplatin* chemotherapy and the combination of both as a *neoadjuvant* to increase caspase-3 expression and apoptotic index in epidermoid carcinoma of the skin in Swiss male mice.

Methods: This study used male mice of the Swiss strain, after induction of epidermoid carcinoma cells, 4 group randomization, K (control), P1 (Phaleria macrocarpa) 0.0715 mg/day, P2 (paclitaxel) 175 mg/m^2 and cisplatin 50 mg/m^2, P3 (the combination of Phaleria macrocarpa and chemotherapy). The caspase-3 expression was examined with immunohistochemical stain and the apoptotic index examination was done by staining the Tunel*.

Results: Research shows that there is an increase in caspase-3 expression; the order of the increase (from the most significant to the less significant is P3, P2, and P1 with significant result ($p < 0.05$ compraed to the control group. There is a significant correlation between caspase-3 expression and apoptotic index with a very strong positive correlation.

Conclusion: It can be concluded that the *Phaleria marcocarpa* extract*, paclitaxel-cisplatin* chemotherapy and the combination of both increased the caspase-3 expression and the apoptotic index of epidermoid carcinoma cell; there was no significant differences between P1 and P2 but there was a synergy effect from the administration of P1 and P2 combination, and there was significant correlation between the caspase-3 expression and apoptotic index with a very strong positive correlation.

Keywords: *Phaleria marcocarpa, caspase 3, apoptotic index, epidermoid carcinoma of the skin.*

DG 1-04

Correlation Between Psa Levels With Gleason Score of Adenocarsinoma Prostate : Study In Dr Kariadi Hospital Semarang

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ABSTRACT

Introduction: Study has shown that every gram of prostate cancer tissue will increase the average PSA levels of 2.3 ng / ml. The PSA value increase is determined by histological characteristics of epithelial cells. In neoplastic processes the increase of serum PSA depends on differentiation of tumor cells. The less differentiated prostate tumors can cause lower PSA concentrations in comparison to those well differentiated. Gleason Grading System (GGS) is one of the histologic grading system that is widely used to assess the prognosis of prostate cancer. This study aims to prove the correlation between levels of PSA with grading histologist Gleason score on prostate cancer.

Method: This retrospective study included 63 patients with prostat cancer were taken from the medical records from 2012 until 2016, which examined PSA levels and gleason Score of adenocarsinoma prostate.

Results: There was no significant association between PSA levels with Gleason score of adenocarsinoma prostate, the results of Spearman's rho correlation test p value = 0.489.

Conclusion: There was no significant correlation between levels of PSA with grading histologist Gleason score of adenocarsinoma prostate.

Keywords: *Prostate Specific Antigen, Gleason score, Adenocarsinoma prostate*

DG 1-05

Mutation Type and Clinical Manifestations of Transfusion-Dependent β-Thalassemia/Hbe Patients in Semarang, Indonesia

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ABSTRACT

Introduction: Thalassemia is genetic disease caused by mutation gene encoding globin chain production. β-thalassemias/HbE are found in many regions in the world including Indonesia. In spite of potential problems of thalassemia, molecular analysis of underlying genetic abnormality of the patients never been conducted yet. The aim of this study was to determine mutation type and clinical manifestations of transfusion-dependent β-thalassemia/HbE patients in Semarang

Methods: The study was conducted on the period of   2006 – 2010. Research subjects were obstained based on thalassemia patients data of Transfusion Unit Indonesia Red Cross Semarang city branch, Indonesia. Hemoglobin was measured after transfusion by SLS method. Molecular analysis was performed on Eijkman Molecular Biology Institute, Jakarta, Indonesia. DNA concentration was measure by spectrophotometer. PCR-RFLP and ARMS-PCR method were used to determine mutation type. Clinical manifestation severity was assessed using Thailand's clinical manifestations scoring system.

Results: About 38 patients were recruited for molecular analysis. Based on PCR analysis from 38 patients only 32 patients were determined as β-thalassemia/HbE. Molecular analysis yield the most frequent of mutation type was HbE/ivs1-nt5 (71.9%), followed by HbE/CD35 (15.6%), HbE/ivs1-nt1 (9.4%) and HbE/CD41-42 (3.1%). Most of patients were categorized as moderate clinical manifestation. Seven patients have severe clinical manifestations and 5 from those have HbE/ivs1-nt5 mutations. The different of clinical manifestation category among mutations type was not significant (p=0.9).

Conclusion: The most frequent of mutation type of β-thalassemia/HbE in Semarang was HbE/ivs1-nt5. Most of patients were categorized as moderate clinical manifestation

Keywords: *β-thalassemia/HbE, clinical manfestation, mutation type*

DG 1-06

P-selectin a Predictor Venous Thromboembolism in Cancer Patients Undergoing Chemotherapy

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ABSTRACT

Introduction: Venous thromboembolism (VTE), consisting of deep vein thrombosis (DVT) and pulmonary embolism (PE), is the second-leading cause of death in patients with malignancy. P-selectin is found in endothelial cells and platelets where it is stored in Weibel-Palade bodies and alpha-granules, respectively. P-Selectin plays an essential role in the initial recruitment of leukocytes during inflammation, recruitment and aggregation of platelets at areas of vascular injury. P-selectin also has functional role in metastasis of tumor. Recently, P-selectin has been investigated as a novel predictor for DVT. We aimed to investigate the role of P-selectin as predictors of DVT in cancer patients undergoing initial chemotherapy administration.

Methods: This prospective cohort study was conducted in Dr. Kariadi hospital, Semarang, Indonesia on 40 newly diagnosed cancer patients. Venous blood samples were drawn for P-selectin measuring prior and after initial chemotherapy administration with ELISA method. These patients were observed for the possibility of developing VTE during three months period.

Results: DVT occurred in 5 (12.5%) patients after a median period of 8 weeks. The most frequent cancer type was colorectal cancer (45% and cervical cancer (15%).The cut-off point P-selectin before and after chemotherapy were 106,7ng/ml and 111,7 ng/ml respectively. The mean level of P-selectin in DVT patients pre chemotherapy was 150,9±54.8ng/ml and post chemotherapy was 199,5±88.9ng/ml. While the mean levels of P- selectin pre chemotherapy and post chemotherapy in DVT negative patients were 78,6±26.9ng/ml and 86,9±36.3ng/ml respectively. With cut-off point P-selectin level > 111,7ng/ml, the relative risk of DVT event was 8,7 (95% CI 1,017 – 74,39).

Conclusions: In this study, P-selectin level may use as predictive marker for DVT in cancer patients undergoing chemotherapy
.
Keywords: venous thromboembolism, P-selectin, cancer, chemotherapy

DG 1-07

Inhibition of the Tumour Necrosis Factor-Alpha In Myeloma Patients with Curcumin

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ABSTRACT

Background: Multiple myeloma (MM) is a malignancy characterized by accumulation of clonal plasma cells in the bone marrow (BM), the presence of a monoclonal immunoglobulin (Ig) in the serum and/or urine, and osteolytic bone lesions). MM is chronic diseases that correlates to several inflamatory citokines. Tumor necrosis factor- β (TNF-β) is a key inflammatory mediator and its reduction is a therapeutic target in several inflammatory diseases. Curcumin has been shown in several preclinical studies to block TNF- β effectively. However, clinical evidence to MM treatment has not been fully conclusive. The purpose of this study is to know the role of curcumin to decrease TNF- β level in MM patients.

Methods: This was a randomized clinical trial in newly diagnostic myeloma patients. These subjects were devided to two groups; the treatment and control. The treatment arm was given melphalan, prednisone, curcumin. The control arm was given melphalan, prednisone and placebo. Before first chemotherapy administration, blood samples was taken for TNF- β. After 4 months treatment these patient evaluated for TNF- β.

Results: There are 12 subjects can finished the study in the treatment arm and 11 subject in the the control. Mean age of treatment and control arm were 54.88 (SD± 2,070) and 59.13 (SD± 2,07) years respectively. Most of the subjects in both arms have impaired kidney function and bone lytic lesion or fracture. After 4 months treatment, there was a significantly lower of TNF- β levels in treatment arm than control [13,07 ± 2,07 vs 2,07 ± 9,17, *p=0,008, p<0,005*].

Conclusions: Curcumin have potentiation effect to decrease TNF– β in myeloma patients

Keywords: TNF-β, myeloma, curcumin

DG 1-08

The Correlation Between Serum Vascular Endothelial Growth Factor (VEGF) Levels and Size of Colorectal Cancer Tumors

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ABSTRACT

Introduction: Angiogenesis plays an important role in progression of colorectal carcinoma (CRC). Vascular endothelial growth factor (VEGF) is the predominant angiogenic factor in CRC and plays important role in cell mitosis, change in cell shape and increases vascular permeability. Vascular endothelial growth factor is expressed in approximately 50% of CRCs, and considered an important angiogenic factor in growth and development of CRC. In this study, we examined VEGF serum levels to asses corelation between serum VEGF levels and size of CRC tumors.

Methods: This cross sectional study involved 17 CRC patients with stage I, II, III. who had undergone large bowel resection at Karyadi Hospital and had not chemotherapy. Size of tumors grading system according to TNM system based on abdominal CT , whether serum levels of VEGF was assessed by ELISA.

Results: In this study, we found the grading tumor size T1, T2 and T3 was 23,5%, 29,4 % and 47,1 % respectively. Significant statistical correlation (p=0.001) was found between serum VEGF levels and size tumors of CRC with strong relationship (rho>0,7).

Conclusion: This study showed a correlation between serum VEGF levels and size of colorectal cancer tumors. Whether VEGF levels is affected by surgical procedure, we need further study to evaluate serum VEGF levels before surgical and tumor size according to treatment response.

Keywords : *VEGF, Colorectal Cancer*

DG 1-09

Level of Urinary trans,trans-muconic acid as an indicator of benzene exposure in childhood Leukemia

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ABSTRACT

Background: Epidemiological studies have shown an correlation between benzene exposure and increased risk of cancers incidence. Benzene, an important industrial chemical used worldwide, its metabolite products (phenol, hydroquinone, trans, trans-Muconic acid (tt-MA), benzene oxide and S-phenylmercapturic acid) are responsible for benzene toxic effects. TtMA is a minor non-phenolic metabolite of benzene that excreted in urine. TtMAevaluation has been recommended as a biomarker for benzene exposure.

Objective: To determine the association between benzene exposure, assessed by urinary ttMA, as a risk factor of acute leukemia in children.

Methods: Case control study was carried out in dr. Kariadi Hospital between January-Desember 2016. All acute leukemia patients (in and out patients) were enrolled. Data about environmental (tobacco or pesticide exposure, rural or urban area, living near factory or main road) and parental occupation (daily exposure or no exposureto benzene) wereevaluated by questionnaires. Benzene exposure, as represented byurine ttMA assay, was monitored by Liquid Chromatography Mass Spectrophotometry (LCMS).Data analysis was performed using Mann-Whitney andShapiro-wilk.

Results: There were 26 boys and 14 girls with mean age of leukemia onset of 8,3 ± 4.9 years. The levels of tt-MA in leukemia group were about 2.68 times higher than control group(352,39 (SD ± 372,35) Vs 131,13 (SD ± 85,74) mg/gCr, (p= 0,009). There were significantassociationbetween benzene exposure and parental occupationwith the incidence of acute leukemia in children (OR 5.5, 95% CI (0,30-0,93)p= 0,041 and OR 3.55, 95% CI (0,75- 4.56) p= 0,004).

Conclusion: There were significant association between benzene exposure, parental occupation and acute leukemia in children.

Keywords: *benzene, tt-muconic acid, leukemia, children*

DG 2-01

Intermodality agreement between MR diffusion and MR with hepatocyte contrast agent Gadoxetic-Acid-Disodium (Gd-EOB-DTPA) to determine HCC (A Preeliminary Study)

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ABSTRACT

Introduction: Hepatocellular carcinoma (HCC) is a primary liver malignancy which became the third most cause of death from cancer according to WHO. Cirrhosis due to chronic hepatitis B or hepatitis C is the leading risk factor for HCC. Guideline from Japan society of Hepatology recommends magnetic resonance (MR) with hepatocyte spesific contrast agent Gadolinium ethoxy-benzyl diethylenetriamine-pentaacetic-acid (Gd-EOB-DTPA) as a second line imaging modality. Gd-EOB-DTPA is the most sensitive contrast agent in detecting small size HCC and premalignant lesion which can develop into HCC.
MR diffusion can describe a detailed tissue such as cellularity and integrity of cell membrane. DWI is an MR-sequence which evaluate cellularity and integrity of cell membrane. ADC map is another MR-sequence which adopted from DWI, while ADC value is the best imaging technique to evaluate diffusion quantitatively. The objective of this study is to know the intermodality agreement between MR diffusion and MR with Gd-EOB-DTPA

Method: This study reviewed patients who had MR diffusion and MR with Gd-EOB-DTPA examination which was inconclusive HCC on CT examination. Two radiologist reviewed the result. Kappa test used to investigate the intermodality agreement between MR diffusion and MR with Gd-EOB-DTPA.

Results: Twelve patients met this study's criteria. There were 10 male and 2 female patients, with majority case (83%) have cirrhosis due to chronic hepatitis B or hepatitis C. There was an agreement between MR diffusion and MR with Gd-EOB-DTPA. Statistic study showed a high level of agreement (p=0,007, measure of agreement Kappa=0,75).

Conclusion: There was a high level of agreement between MR diffusion and MR with hepatocyte contrast agent Gd-EOB-DTPA to determine HCC in Kariadi General Hospital, Semarang.

Keywords: *Hepatocellular carcinoma, MR diffusion, Gd-EOB-DTPA*

DG 2-02

The Comparisons of Caspase-3 and Caspase-7 Expression from Retinal Ganglion Cells Apoptosis Post Folic Acid and Methylcobalamine Administrations In Methanol Toxic Wistar Rats Models

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ABSTRACT

Introduction: Methanol-induced toxic optic neuropathy could cause visual impairment until blindness. Currently, treatment of this disease was high dose corticosteroid injection, with many side effects. Several alternative therapies were administration of folic acid and methylcobalamine. The aim of this study was to analyse the differences of caspase-3 and caspase-7 expression from retinal ganglion cells apopotosis post folic acid and methylcobalamine administrations in methanol toxic wistar rats model. Caspase 3 and 7 are apoptotic caspases executor that play a critical role in apoptosis.

Method: Two group of methanol toxic wistar rats models were divided into group 1 which was administrated with oral 1mg/kgBW folic acid and group 2 which was given intraperitoneal 2500 μg/kgB methylcobalamine. Two control group were included to measure caspase-3 and caspase-7 expression after methanol intoxication. Each group consist of 7 wistar rats. Caspase-3 and caspase-7 expression were assessed using immunohistochemical examination. The difference of caspase-3 expression was assessed using One Way Annova and the difference caspase-7 expression was assessed using Kruskal Wallis.

Results: Mean value of caspase-3 and caspase-7 expression from group 1 were 6.4 and 6.5, from group 2 were 6.64 and 6.96. When it compared with control, caspase-3, caspase 7 expression in group 1 and caspase-3 exprssion was not significantly different ($p=0.305$, $p=0.863$, $p=1$). While caspase-7 expression in group 2 was significantly different ($p=0.042$), the value is higher than control.

Conclusion: Folic acid administration reduce the expression of caspase-3 and caspase-7 in methanol toxic wistar rats models. While methylcobalamine admisinistration showed same value in caspase-3 expression and higher caspase-7 expression when it compared with control.

Keywords: *methanol toxicity, caspase-3, caspase-7, folic acid, methylcobalamine*

DG 2-03

Relationship of Prostate Volume With Age Levels in Patients With BPH in Dr Kariadi Semarang in period of January 2012 – December 2014

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ABSTRACT

Introduction: Prostate volume and age are two things that are related with the diagnosis and therapy planning in BPH. This study aims to prove that there is a relationship between prostate volume with preoperative age at early diagnosis is made.

Methods: This retrospective study included 80 patients with BPH that taken from the medical records from January 2012 until December 2014, which examined with TRUS and age

Result: It is found a significant correlation between prostate volume with age, the results of Spearman's rho correlation test p value = 0.000 and r = 0.798.

Conclusion: There is a significant correlation between the volume of the prostate with age in patients with BPH.

Keywords : *prostate volume, age level, BPH*

DG 2-04

Association Between Hyperglycemia and Prostate Volume in Patients with Benign Prostate Enlargement in Dr. Kariadi Hospital Semarang

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ABSTRACT

Introduction: Prostate is a male organ which might enlarged mostly, either benign or malignant. This study was designed to evaluate the association between hyperglycemia and prostate volume in patients with benign prostate enlargement in Dr. Kariadi Hospital Semarang. We analyzed the clinical data related with hyperglycemia and prostate volume in the study population.

Method: We conducted a retrospective analysis of clinical data which obtained from 640 men between 2010 and 2012 who admitted to the hospital with diagnosis of benign prostate enlargement. By their medical records, these patients were evaluated of their plasma glucose level and prostate volume by transrectal ultrasound. The presence of hyperglycemia was determined based on the American Diabetes Association (ADA) and the European Association for the Study of Diabetes (EASD). We allocated the subjects into two groups: patients with hyperglycemia and non- hyperglycemia. Logistic regression analysis was used to assessed whether hyperglycemia was associated with the increased risk of benign prostate enlargement.

Results: Significant difference of prostate volume found between groups. Prostate volume was significantly greater in hyperglycemia group compared with non- hyperglycemia ones in all sub-groups based on age (in decades).

Conclusion: Hyperglycemia and prostate volume were significantly associated in patients with benign prostate enlargement. Hyperglycemia became a significant risk factor for prostate enlargement in patients with benign prostate enlargement in dr.Kariadi Hospital Semarang.

Keywords: *hyperglycemia, benign prostate enlargement*

DG 2-05

The Incidence of Comorbid Factors Geriatric and Non- Geriatric Patients with BPH Who Performed TVP Surgery in The Hospital Dr.Kariadi Semarang

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ABSTRACT

Purpose: To examine the incidence of hypertension and diabetic mellitus in patients geriatric and non- geriatric with BPH in TVP surgery in Dr Kariadi Hospital

Materials and methods: Retrospective descriptive study. By means of a medical examination Hospital remarks Dr. Kariadi for three years from January 2009 to December 2012. The study take place in medical records at Dr. Kariadi hospital.

Results: Obtained 64 patients consisted of 55 (85.9 %) geriatrics and 9 (14.1 %) non-geriatrics. Results that most systemic disease in patients aged BPH ≥ 60 years (geriatrics) are hypertension 32 patients (50 %) and diabetic mellitus 20 people (31 %) , whereas systemic disease in BPH aged < 60 years (non- geriatric) , namely hypertension in 5 patients (7.8 %) and diabetic mellitus 4 people (6 %) of the results of Mann Whitney p value = 0.969 , for p > 0.05 we can conclude there is no significant difference between groups in systolic geriatric and non- geriatric of the results of independent t test p value = 0.885 , for p > 0.05 we can conclude there is no significant difference between groups diastolic geriatric and non- geriatric. Of the results of Mann Whitney test p value = 0.885 , for p > 0.05 we can conclude there is no significant difference in fasting blood sugar between geriatric and non- geriatric group of the Spearman correlation test results table for systolic against GDP obtained value p = 0.502 and r = 0.085 , for p > 0.05 , it can be concluded no significant correlation . Spearman correlation test results for diastolic against GDP obtained value p = 0.549 and r = 0.076 , for p > 0.05, it can be concluded no significant correlation of table chi Sguare for hypertension variables to age categories p value = 1.000 and for the variables DM against age categories p value = 0.718 . because the value of p > 0.05, it can be concluded either hypertension or diabetic in geriatric insignificant .

Conclusion : This study showed that elderly hypertensive group 32 patients (50 %) and diabetic, 20 people (31 %), while the non- geriatric namely hypertension in 5 patients (7.8 %), and diabetic 4 people (6 %) . weaknesses in this study is the number of samples in this group is the number of samples in the non- geriatric group is too small, so that the results of the analysis are usually high .

Keywords: *benign prostate hyperplasia, hypertension , diabetic mellitus , geriatrics , non geriatrics , TVP*

DG 2-06

Primary brain lymphoma in a patient with Chronic Myeloid Leukemia

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ABSTRACT

Introduction : Chronic myeloid leukemia (CML) is a clonal expansion of haematopoietic progenitor cells characterized exaggerated proliferation of granulocytic lineage, with chronic phase, accelerated phase and blast crisis. Accelerated phase and blast crisis may be associated with extramedulary disease. Extramedullary transformation of CML can be determined both in nodal and extranodal sites. We reported a rare case female patient with chronic phase CML associated with primary brain lymphoma.

Clinical presentation : A 53 year old women with BCR-ABL-positive chronic phase CML treated with imatinib 400 mg daily for 4 years. She noted severe headache since 2 months before. Brain CT showed tumor in the cerebellum. Pathological evaluation showed suggested a small round cell tumor non-Hodgkin lymphoma. The immunohistochemistry (IHC) findings revealed LCA (+), CD3 (-), CD20(+) and Ki67 > 30%, that confirmed high grade B cell non-hodgkin lymphoma (small type). The patient was treated with De Angelis protocol every 2 weeks for 5 cycles and whole brain radiation therapy (WBRT), concurrent with imatinib. Post chemotherapy the headache was reduced significantly. PET CT and MRI evaluation indicated significantly reduced in tumor size. Patient still in imatinib treatment and have good quality of life until one year follow up.

Conclusion : We reported a very rare case CML with NHL. Immunohistochemistry test is very important to confirm the correct diagnosis. Further studies are required to clarify the pathogenetic NHL in CML patient treated with Tyrosine KInase Inhibitor.

Keywords : *chronic myeloid leukemia, tyrosine kinase inhibitors, non-hodgkin lymphoma, IHC*

DG 2-07

Autism phenotype in fragile X premutation males is not associated with FMR1 expression: a preliminary evaluation

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ABSTRACT

Introduction: To explore the association between autism phenotype and *FMR1* protein (FMRP, *FMR1* mRNA and CGG repeat length in 31 male *FMR1* premutation carriers aged 3.0 to 27.9 years old (mean 13.0 ± SD 6.5 using the Autism Diagnostic Observation Schedule (ADOS communication, social interactive and total scores. There was no significant difference in FMRP, CGG repeat length, and *FMR1* mRNA between fifteen subjects without autism spectrum disorder (ASD)/Pervasive Developmental Disorder Not Otherwise Specified (PDDNOS/autism and sixteen subjects with ASD)/PDDNOS/autism. ADOS scores were not significantly associated with either FMRP or *FMR1* mRNA. However, CGG was significantly negative associated with both ADOS communication score (p= 0.0173 and ADOS total score (p= 0.0358). This preliminary evaluation found that autism phenotype is not associated with the level of expression of either *FMR1* mRNA or FMRP.

Method: The diagnostic algorithm of the Autism Diagnostic Observation Schedule (ADOS) module was used to examine the profile of autism. The participants were divided into two groups, group A without ASD/PDDNOS/Autism and group B with ASD/PDDNOS/Autism. FMRP levels were determined using the sandwich Enzyme-linked Immunosorbent Assay (ELISA) method, FMR1 mRNA expression levels were measured by qRT-PCR, and CGG repeat size was determined using Southern blot and PCR analyses. Statistical analysis used: descriptive statistical analysis was based on Fisher exact test for categorical variable and student's t test for continuous variables. To test association between ASD scores and molecular biomarkers (FMRP, FMR1 mRNA, CGG repeats), the analysis of covariance (ANCOVA) was used to with covariates group effect and FMRP or FMR1 mRNA or CGG repeat. Differential association between ADOS variables depending on whether premutation carriers in group A or B were assessed with inclusion of interaction term with group; however, the all interaction terms were not statistically significant. All statistical analysis was conducted in SAS version 9.2.

Results: ADOS scores were not significantly associated with either FMRP or *FMR1* mRNA. However, CGG repeat size was significantly negative associated with both ADOS communication score (p= 0.0173) and ADOS total score (p= 0.0358).

Conclusion: This preliminary evaluation found that autism phenotype is not associated with the level of expression of either *FMR1* mRNA or FMRP however the communication score and total score are associated with the CGG repeat size.

Keywords: *Autism, CGG, FMR1 mRNA, FMRP, Fragile-X Premutation*

NS 1-01

Early Electronic Screen Exposure and Autistic-like Symptoms: a preliminary study

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ABSTRACT

Introduction: Prevalence autism spectrum disorders (ASD) has been on rise, but many studies suggests over-diagnosed. Currently, children have more access to electronic media on the daily basis than those of previous generation. Some studies suggests that increases screen time is associated with melanopsin-expressing neurons and decreasing gamma-aminobutyric acid (GABA neurotransmitter), and thus results aberrant behavior, decreased cognitive, and language development. Early exposure of electronic media in early life (< 2 years old) may give an impact on language, but it still inconclusive.

Objective: To elucidate the impact of early and length exposure to electronic screen on language development and autistic-like behavior.

Method: Children (aged 2-10 year old) who have autistic-like behavior were included. DSM-5 had been used by experienced Pediatricians to diagnosed ASD. Participants who were not met ASD criteria subjected to administer structured interview of electronic screen syndrome questionnaire.

Results: Nine children (6 male, 3 female aged 44-78 months) with language delay and short attention span were included. All 100% (9 children had early exposure (< 2 years old of electronic screen and had speech delay), 6 out of 9 (67% had ≥ 3 hours screen exposure/day, and in majority, 67% of cases were no parents-child interaction during the exposure.

Conclusion: Early, length exposure of electronic screen media, and no parent-child interaction during the exposure cause language delay and short attention (autistic-like symptoms.

Keywords: *Screen time, early exposure, autistic-like symptoms, speech delay, short attention span*

NS 1-02

Identification of sudden unexpected death in epilepsy (SUDEP) based on forensic odontology sciences

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ABSTRACT

Epilepsy patients are at risk of death by two to three fold increase compared with the general population. Epilepsy is more common in men than in women. In chronic and uncontrolled chronic epilepsy, the main cause of death during seizures is sudden unexpected death in epilepsy (SUDEP) with 7.5% to 17% of deaths in adult epilepsy with sudden death, between 15,500 and 151,000 patients per year. Lots of sign can be identified from SUDEP death cases particularly in the field of forensic odontology such as clinical findings on tip and tongue distal bites, dental fractures, and TMJ dislocations. To make the diagnosis of epilepsy, the examiner should have a clinical diagnosis in the patient's past or previous medical care record, complete autopsy including tongue preparation, as well as microscopic and toxicological examination. Saliva is investigated as an alternative biological fluid monitors the therapeutic drug of anti-epilepsy drugs and is more advantageous than blood or serum. There was a positive correlation between the decreased serum folate level and increased severity of gingival enlargement due to the consumption of antiepileptic drugs. The drugs most often studied using saliva are phenytoin, phenobarbital, and carbamazepine. Histologic examination of the presence of purkinje cells is characterized by plasma proteins in blood-brain-barrier (BBB) damage. In the gene level, phenytoin consumption causes expression of CIP2C9*3 polymorphisms associated with gingival hyperplasia.

NS 1-03

Diagnostic value of fractional anisotropy in detecting hippocampal sclerosis: A study on intractable Mesial Temporal Lobe Epilepsy with normal MRI

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ABSTRACT

Introduction: This study aimed to investigate whether Fractional Anisotropy (FA) is reliable in detecting hippocampal sclerosis on intractable Mesial Temporal Lobe Epilepsy (MTLE with normal MRI as measured from the degree of of neuronal loss, gliosis and axonal sprouting.

Method: Twenty-three MTLE patients underwent surgery and 10 healthy volunteers were involved in this study. The MTLE diagnosis was based on semiology and ictal EEG, while hippocampal sclerosis was diagnosed using standardized MRI, followed by DTI FA. Histopathological analysis of hippocampus was performed with NeuN, GFAP, and NPY staining to detect the neuronal loss, gliosis, and axonal sprouting. Correlation and Diagnostic test was done to asses of diagnostic value FA.

Results: Ten MTLE patients showed normal MR, 4 with hippocampal sclerosis and 6 were with FCD. The value of FA was significantly lower compared with healthy subject. The cut off point of FA in detecting hippocampal sclerosis was 0.17 (AUC=0.89). The sensitiviy, specificity, positive predictive value, and negative predictive value of FA were 81.8%, 72.3%, 64.3%, and 89.56% respectively. There was significantly correlation between FA with the degrees of neuronal loss and gliosis. The concurrence between FA with EEG 7 out of 10 patients.

Conclusion: Fractional Anisotropy has a good diagnostic value in detecting hippocampal sclerosis on normal MRI patients. In addition, this technique also shows a moderate association with degrees of neuronal loss and gliosis.

Keywords: *intractable MTLE; normal MRI; DTI; fractional anisotropy; hippocampal sclerosis.*

The Role Of Dexmedetomidine As Brain Protector Assessed By Cortisol, Il-6 And Cox-2 Concentration In Rat Model Of Traumatic Brain Injury

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ABSTRACT

Brain protection is one of the important issue in brain trauma management, to prevent secondary brain injury. There are basic method and pharmacologic method in brain protection. Many studies over the world perform to find best drugs for brain protection, but so far the result still inconsistent. The objective of this study is to evaluate the role of dexmedetomidine as brain protector based on cortisol, IL-6 and COX-2 plasma concentration.

A laboratory experimental study with randomized control trial design had been conducted on 24 male, wistar rat, about 3 month old, to receive artificial brain trauma in standard methode, to get moderate brain injury. After the approval from ethical committee, wistar rat divided into three group, K1 group,n=8, (NaCl), P group n=8, (treatment) and K2 group=8, (control). Rat anesthesied with ketamin 80 mg/lgBW intra peritoneally, get blood sample for ELISA analysis, followed by craniectomy for artificial brain trauma only for group K1 and P, after skin stitch rat of group K1 receive saline intra peritoneal, and group P get dexmedetomidine 60 µgr/kgBW. K2 group as control group were not received any trauma nor medication. Dexmedetomidine or saline was given serially at 3 hour, 12 hour and 24 hour after trauma. Next Blood sampling taken at 12 hour and 24 hour after trauma. Data were then analyzed with ANOVA and Friedman for group and Spearman analysis for correlation.

The result of data analysis show that cortisol unsignificantly increase in K1 group 12 hours after trauma compared to P group. IL-6 concentration in K1 goup increase significantly 12 and 24 hours after trauma. ($160\pm15,57$) vs ($140,5\pm17,65$) and ($172,6\pm19,07$) vs ($124,2\pm23,6$). Cox-2 concentration in K1 group increase significantly 12 and 24 hours after trauma. ($1491,41\pm341$) vs ($803,62\pm215,73$) and ($1048,45\pm170,43$) vs ($588,93\pm198,57$). Cortisol concentration showed the Hypothalamus hypophyse adrenal axis activity but may changes according to circardian cycles, while COX-2 concentration describe inflammation process. Spearman's analisys showed positive correlation between IL-6 and cortisol ($\rho=0,83$), IL-6 and COX-2 ($\rho=0,71$, COX-2 and cortisol ($\rho=0,71$) in K1 group12 hour after trauma.

It can be concluded that dexmedetomidine has brain protection effect through decreasing of IL-6, cortisol and COX-2 concentration, and there are positive correlation among IL-6, cortisol and COX-2 concentration.

Keywords: *brain protection, dexmedetomidine, IL-6, COX-2*

NS 1-05

The Effect Of Green Tea Epigallocatechin-3-Gallate On Spatial Memory Function, Malondialdehyde And Tnf-A Level In D-Galactose-Induced Balb/C Mice

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ABSTRACT

Introduction: Oxidative stress and neuroinflammation process play an important role in the mechanism of brain aging and neurodegenerative diseases such as Alzheimer. Epigallocatechin-3-gallate (EGCG) have antioxidant, anti-inflammatory, and neuroprotective effects. This study aims to prove the effect of green tea EGCG on spatial memory function, malondialdehyde (MDA), and TNF-α level in Balb/c mice induced by D-galactose.

Method: An experimental study using "post test only control group design". The samples were 18 male Balb/c mices, aged 6-8 weeks, divided into 3 groups. Negative control group (N-C) was induced by subcutaneous injection of D-galactose (150 mg/kg) once daily for 6 weeks. EGCG-2 and EGCG-6 were induced by D-galactose and orally administered by 2 and 6 mg/kg EGCG once daily for 5 weeks. The indicator of examination were spatial memory function using morris water maze, MDA and TNF-α level using Elisa. One-way Anova, Kruskal-Wallis, and Pearson were used for statistical analysis.

Results: Means of % escape latency time and path length in the EGCG-2 {42,02(SD=5,9);43,47(SD=5,97)%} and EGCG-6 {40,45(SD=6,5); 41,78(SD=6,77)%} were significantly higher than N-C {28,68(SD=9,15), p=0,013; 32,98(SD=7,75)%,p=0,04}. MDA level in the EGCG-2 {587,79(SD=76,04)ng/ml} was significantly smaller than N-C {722,64(SD=134,78)ng/ml,p=0,037}. TNF-α level in all groups was not different (p=0,786). There was a significant and strong correlation between MDA level and spatial memory function (r=-0.551; p=0,018).

Conclusion: EGCG may improve spatial memory function and oxidative stress in mice induced dementia, but it may not improve the status of neuroinflammation.

Keywords: *Green tea epigallocatechin-3-gallate, spatial memory function, MDA, TNF-α, D-galactose*

NS 1-06

Brain Tumor cases most oftenly related to chronic epilepsy

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ABSTRACT

Introduction: Neurosurgical procedures have been increasingly applied for the treatment of epilepsy with beneficial effect, especially for partial or localization-related epilepsies The major pathological entities in lesional epilepsies include mesial temporal sclerosis (MTS), primary brain tumor, vascular anomaly, and malformations of cortical development (MCDs). The tumor related epilepsy patients were all referred because of the chronic epilepsy, the histopathology and seizure elimination after surgery were discussed.

Method: The patients were medically intractable admitted to the epilepsy surgery program at the Diponegoro University, Medical Faculty and Telogorejo Hospital , between July 1999 and April 2016. Our preoperative evaluation protocol includes physical, neurological, psychiatric, and neuropsychological examinations, scalp electroencephalogram (EEG), and at least 0.5T magnetic resonance imaging (MRI). Irriating lession were detected using intra operative Electrocorticography (ECoG). Routine pathology studies were performed on resected specimens with some additional studies on the hippocampus.

Results: Our experiences in surgery of more than 467 partial epilepsy cases showed the presence of primary brain tumor as the responsible pathology related to the chronic intractable epilepsy in 27 cases. Seizure Eliminations showed Class 1 (Seizure Free) in 22 cases, Class 2 (not more than 2 seizures per year) in 3 cases, and Class 3 (decrease of seizure frequency more than 75%) in 2 cases.

Conclusion: The presence of tumorous lesions should not be overlooked in chronic epilepsy cases, and seizure elimination should be the main purpose of surgery, not just the tumor removal.

Keywords: *brain tumor, epilepsy, electroencephalography*

NS 1-07

Correlation Between Number Of Leucocyte And Crp Levels With Infarct Volume Of Acute Ischaemic Stroke

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ABSTRACT

Objective: To determine the correlation between the inflammatory response with the size of the infarct of the first acute ischemic stroke.

Methods: This is a cross sectional study. Blood samples were taken in the ward. Ct scan was performed when the patient entered emergency room. Infarct volume measured by manual tracing perimeter infarct. The correlation analysis used various statistical tests and multivariate tests with logistic regression.

Results: Obtained subject as many as 43 sample. The mean of infarct volume was 3.04 cm3, leukocytes was10,120,5/mm3 and hsCRP was 2,49 mg/dL. There is positive correlation between leukocyte count and infarct volume but the relationship is weak, whereas CRP levels with infarct volume showed a positive and significant relationship. Multivariate test for risk factor resulted in correlation between CRP and BMI levels with infarct volume but only CRP showed significant correlation ($p = 0.022$).

Conclusions: There is a weak positive correlation between the number of leukocytes and the volume of acute stroke infarction. There is a significant correlation between CRP levels and the volume of acute stroke infarction.

Keywords: *number of leukocytes, CRP levels, infarct volume*

NS 1-08

Starting Advance Epilepsy programme in countries with limited resources: Indonesian Experience

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ABSTRACT

Introduction: Surgery for patients with medically-refractory seizures indicated to achieve sustained freedom from seizure. The success of epilepsy surgery depends upon the accurate identification of good surgical candidates based on the available resources and technologies without jeopardizing safety. we will share our experiences of establishing an epilepsy surgery program in Indonesia.

Methods: Two periode of epilepsy surgery programe were evaluated. Early Epilepsy Surgery (1999-2004) were mainly based on imaging / MRI. The second period (2005 – 2015), Surgical evaluation based on invasive, non invasive and intraoperative finding. Engel class was used for evalutauton the outcome.

Result : in the first period there were 56 Temporal lobe epilepsy(TLE) patients. The second period, TLE with abnormal MRI were 228 patiens, TLE with normal MRI were 128 patients, Hemispheric were 13 patients, extra temporal were 19 patients and generalized epilepsy were 9 patients. Erly epilepsy surgery result Engel's Class I was 82%, Class II was 11%, and Class III was 7%. Second periode result of the overall seizure free (SF) rate were 70.75%.

Conclusions: MRI plays very important role to decide the side of the epileptic temporal side during the beginning five years. We are working on more difficult epilepsy cases recently. SF rate was significantly higher for those who was operated at younger age and for those with shorter duration of epilepsy. Surgery should be offered earlier for those intractable TLE patients

Key words: *Epilepsy surgery, seizure free, outcome*

Effect of Chronic Organophosphate Poisoning on Attention Deficit and Memory Impairment

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ABSTRACT

Introduction: Organophosphate pesticide poisoning is a common health problem in Indonesia. By inhibiting acetyl cholinesterase mechanism, chronic organophosphate poisoning may lead some cognitive consequences included attention deficit and memory impairment. This study investigates the effect of chronic organophosphate exposure in attention deficit and memory impairment.

Method: A cross-sectional study was conducted in 2 different groups, each consisting of 33 male farmers in Banjarnegara, aged 18-59 who are occupationally exposed to organophosphate for at least 2 years. First group was carried on memory examination using Memory Impairment Screen (MIS) instrument while in second group, attention examination was measured by attention network test (ANT). Vein blood samples analyzed semiquantitatively using Tintometer to know the level of blood acetylcholinesterase (AChE) activity. Data were analyzed using chi square and spearman.

Result: In the first group, 15 (45.5%) samples were found mildly poisioned, while 18 (54.5% samples were found normal. Among 33 samples, 11 (33.3%) samples have memory impairment. Overall, memory impairment prevalence was hinger in sample with mild poisoning, with prevalence ratio of 1,78 (p=0.026). In second group, 54.5% (n=18) farmers were found mildly poisioned while 45.5% (n=15) others had normal AChE activity. Lower AChE activity were significantly correlated with poorer performance in total attention score ($r = -0.539$; $p < 0.00$), especially alerting ($r = -0.653$; $p < 0.00$) and orienting function ($r = -0.632$; $p < 0.00$).

Conclusion. Chronic organophosphate poisioning seems to have deleterious effects on memory and attention.

Keywords: Organophosphate pesticide, chronic, memory, attention, acetyl cholinesterase

NS 1-010

Grandparent's Social Support to Autistic Grandchildand Psychological Well Being in Elderly

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ABSTRACT

Children with ASD need social support from their surroundings, including from grandparents living with them. The social support given will also affects the grandparents' psychological wellbeing. The research was aimed to provide empirical evidence on the correlation between grandparental social support and psychological wellbeing of elderly who takes care of grandchildren with ASD. The research used quantitative method with correlational design. The tools were Psychological Wellbeing scale (30 valid items, $\alpha = 0,911$) and Grandparental Role (25 valid items, $\alpha = 0,828$). The subjects of the research were 86 elderly from Semarang, Jepara, and Kendal obtained from quota-purpose sampling technique. Simple regression analysis was used to analyze the data. The test on the research hypothesis results in $r_{xy} = 0,419$ with $p = 0,000$ ($p<0,05$), which indicates positive and significant correlation between grandparental social support and the psychological wellbeing of the elderly. A noticeable correlation was observed on the aspects of emotional support to the psychological wellbeing of the elderly and belongingness which is related to emotional support to the psychological wellbeing of the elderly. Instrumental support also shows increasing effects on the psychological wellbeing of the elderly if correlated with emotional supports. So, emotional support is the main contributor of social support that influences the psychological wellbeing of the elderly

Keywords: *Social support; Psychological wellbeing; Elderly; Grandchildren; Autism spectrum disorder (ASD)*

NS 1-011

Combination Cbt (Cognitive Behavioural Therapy And Virtual Reality Effectiveness In Managing Acrophobia

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ABSTRACT

Introduction: Acrophobia means phobia of height. Not all therapy has high effectiveness. CBT method consists of cognitive therapy and behavioral counseling declines phobia intensity. Virtual Reality is a 3D environment simulation that can be used as an alternative, taking patients to a high altitude place directly.

Method: An Experimental study with pre and posttest only controlled group design. The Experiment group was given CBT and VR in 3 sessions. The control group was given CBT only. Dependent variable in this research are pretest-posttest HIQ questioner, blood pressure, and heart rate.

Result: The percentage score of heart rate in experiment group using Paired sample T-Test is VR1 p= 0,000, VR2 p= 0,052, VR3 p= 0,006, systolic pressure is VR p= 0,005, VR2 p= 0,000, VR3 p= 0,006 and diastolic pressure is VR1 p= 0,005, VR2 p= 0,015, VR3 p= 0,004. The percentage score of HIQ Questioner in experiment group using Paired T-Test is p= 0,001 and in control group is p= 0,081. While the percentage score of HIQ Questioner in experiment and control group using Independent sample T-Test is p= 0,012.

Conclusion: Combination of CBT and Virtual Reality is more effective in managing acrophobia than using CBT only. It can be seen from the HIQ Questioner score was significantly decrease, also blood pressure and heart rate decrease gradually after given CBT and Virtual Reality.

Keywords: *Acrophobia, Cognitive Behavioral Therapy, Virtual Reality*

NS 1-012

Effect Of Caffeine And Brain Trainning On Cognitive Function

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ABSTRACT

Background: Cognitive function is the ability to process information through learning or experience. Cognitive function include different cognitive process such as memory, attention and intelligence. Caffeine and brain training have property to enhancing cognitive function. This study is aim to compare the effect of caffeine and brain training on cognitive function.

Methods: Experimental research two groups pre and post design was carried out in the Department of Physiology, Medical Faculty Diponegoro University, Indonesia. Study subjects were medical students (n=42). Subjects were allocated into: caffeine group (n=21) received 50 ml of caffeinated beverage daily for two weeks, and brain training group (n=21) received a 30-minute-session of Neuronation® brain training daily for two weeks. Cognitive function were measured scenery picture memory test, attention network test and the raven progressive matrices test.

Result: Memory score of caffeine group was higher than the brain training group (p=0.041). The caffeine group demonstrated 52,4% subject had attention score improvement while brain training group was 95.2% (p=0.002). The increased of intelligence performance score of caffeine group was higher than brain training group (p = 0.005).

Conclusion: Adminsitration of caffeine 50mg daily for 2 weeks has increase memory and intelligence performance, while brain training has increase attention.
There was a significantly higher increase score shown in the caffeine treatment group rather than in the brain training group.

Keywords: *Cognitive function, memory, attention, intelligence, caffeine, brain training*

NS 2-01

Autonomic Dysfunction of Chronic Organphosphate Poisoning

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ABSTRACT

Introduction : Chronic exposure of organophosphate pesticide may cause autonomic dysfunction (AD) that related to low level of erythrocyte and plasma acetylcholinesterase (AChE) and high plasma Nerve Growth Factor (NGF) concentration
.
Method: A case-control study was conducted in Ngablak District, Magelang regency. Subjects on case group were 26 farmer with AD and control group were 26 farmer without AD.   Activity of erythrocye AChE was measured by reactive paper kit. The level of plasma AChE and NGF were measured by ELISA method. AD was determined by Ewing Test and the severity of AD was assessed by AD Score.

Results: Activity of erythrocye AChE of AD group was 59,6±2,40 %, significantly lower than without AD group 63,0±15,20% (p=0,04). The levels of plasma AChE of subjects with AD was 4.36 ± 0.952, significantly lower than subjects without AD was 8.31 ± 0.742 (p <0.001). Levels of NGF on subjects with AD was 1241.12 ± 3129.7 pg / mL, significantly higher than subjects without AD was 556, 6 ± 533.44 pg/mL (p <0.001). Degree of AD were negatively correlated to activity of erythrocye AChE (r= -0,33; p=0,02) and plasma level of AChE (r= -0,87; p<0,001). Degree of AD were positevely correlated to plasma NGF level (r= 0,77; p<0,001).

Conclusion: Chronic exposure of organophosphate cause lower erythrocyte and plasma AChE activities and high NGF blood level. Activity of erythrocyte and plasma AChE activities and high NGF blood level were correlated to degree of AD.

Keywords: *Organophosphate, autonomic dysfunction, acetylcholinesterase, NGF*

NS 2-02

Cocaine-induced midline destructive lesion (CIMDL)

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ABSTRACT

The use of cocaine increasingly widespread. The most frequently used method of administration of cocaine is intranasal inhalation. Cocaine can produce direct irritation and ischemia of the nasal and palate mucosa because of the vasoconstrictive effect leading over to extensive destruction of the osteocartilaginous midline structures of the palate, nose, and sinuses. Cocaine-induced midline destructive lesion (CIMDL) is a condition that may arise in response to chronic inhalation of cocaine. It is common when medical examiners find CIMDL during intranasal cocaine abusers's autopsy. This paper aims to make practicing forensic odontologists aware of CIMDL. The midline destructive lesion can be caused by cocaine abuse, infections, neoplasma, sarcoidosis and granulomatosis with polyangitis (Wegener's). CIMDL clinically diagnosed when signs of destruction could be found at the nasal septum, palate and/or lateral nasal walls.Identifying CIMDL in human remains could be difficult without clinical history, autopsy findings, crime scene findings, toxicology and microscopic findings.

NS 2-03

Effect Of Skipping And Running With Music In Short-Term Memory Improving In Young Adults

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ABSTRACT

Background: Aerobic exercise has been reported to improve memory function. Skipping and running particularly with music are known as sports that easy to do and loved by young adults. However, their effect to improve short-term memory in young adults has not been studied yet.

Objective: to know the effect of skipping and running with music in short-term memory improving in young adults.

Method: This study used quasi experimental research design with pre- and post-test unequivalent group. The subjects were medical students of Diponegoro University (n = 80), aged 18-22 years old, who were selected by purposive sampling and divided into 4 groups: skipping 3 times a week for 8 weeks (n=20), with control was group without exercise (n=20), running with music for 30 minutes (n=20), and running without music as a control. Short-term memory in pre- and post-test were measured using Scenery Picture Memory Test and data were analyzed using paired t-test, unpaired t-test, Wilcoxon, and Mann-Whitney.

Results: There was a significant difference in short-term memory ($p < 0.05$) after skipping or running either with music or not (p=0.000). Short-term memory in skipping and running with music groups were significantly increase ($p < 0.05$) compared with control, 3.6±2.63 vs 0.95±3.12, and 5.0±2.66 vs 3.05±1.76, respectively.

Conclusion: Short-term memory can be improved by regular skipping exercise and running with music in young adults.

Keywords: *aerobic exercise, short term memory, skipping, running with music*

NS 2-04

Is Simple Ulnar Nerve Decompression Simple?

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ABSTRACT

Introduction: Cubital tunnel syndrome is the second most common entrapment neuropathy of the upper limb.The minimally invasive operation techniques for Cubital Tunnel Syndrom is increasing and more data support the safety, efficiency and morbidity of this procedure. There are two major surgical approaches: Simple Decompression on Elbow, and Transposition of the ulnar nerve. Although many of the operating techniques have been introduced, none of these techniques have been shown to be superior. The purpose of this article is to provide a broader overview of existing modifications on simple ulnar nerve decompression so that decision-making can be more accurate.

Methods: We systematically searched Medline (PubMed) databases using the following keywords: 'simple ulnar nerve decompression' and being published in the last 5 years. Ten studies were included in this review.

Result: Symptomatic improvement was observed as a positive result of these simple ulnar nerve decompression techniques. There was complete sensory recovery in 60% of severe cases. The addition of the transposition technique is added with modified simple decompression simply decrease intraneural pressure on elbow site.

Conclusion: Modified simple decompression and simple ulnar nerve decompression techniques are encountered in the form of long incision lines, extensions to other compression areas and additions with other decompression techniques. Each has its own advantages and indications, the choice of technique ultimately depends on the operator's level of proficiency as it all shows good result and not simple as it said.

Keywords: *ulnar neuropathy, simple decompression, modified*

NS 2-05

Hemispherotomy for intractabel epilepsy : how we do it

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ABSTRACT

Introduction: Hemispherotomy is a surgical procedure for hemispheric disconnection. Functional hemispherotomy provides the highest rate of seizure control when performed in properly indicated patients. It is a technically demanding surgery. This report will validate and compare the thechnique for hemispherotomy performed in patients with intractabel epilepsies.

Material and method: Retrospective study was performed from 1999 to 2016. Postoperative assessment was carried out using seizure outcome parameters of Engel. The techniques of surgery included vertical parasagital approach and peri insular hemispherotomy.

Result: Sixteen cases of hemispherotomies from total 442 cases operated for intractabel epilepsy. all cases operated for intractabel epilepsy underwent a complete epilepsy workup. Age range 5-28 years old, 8 male and 8 female. The seizure frequency ranged 2 -20 episodes per day. The pathologie included Rasmussen's, hemimegalencephaly (unilateral) hemispheric enlargement) with severe cortical and subcortical changes and encephalopathy of unknown ethiology. class I outcome (Engel's) was seen in 13 (81%), assessed at 2 – 68 month of follow-up. One patiens had right hemiplegia after surgery.

Conclusions: Hemispherotomy is a save procedure, meticulous pre operation selection could assure better outcome in intracable epilepsy surgery cases.

Keywords: *epilepsy surgery, hemimegelencephaly, hemispherotomy, Rasmussen's syndrome, developing country*

NS 2-06

Counter-Pressure Of Pain Intensity In Dismenorrhea At Adolescence

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ABSTRACT

Introduction: Dysmenorrhoea is a complex phenomenon pain in the human body that occur due to the presence of uterine contraction is characterized by an increase in prostaglandin that can lead to feeling uncomfortable, unpleasant, uterine cramps, back pain, headaches, sweating. The impact of dysmenorrhoea was such concentration learning disorders, activity is disturbed, less appetite, and body limp. Dysmenorrhoea can be addressed in non pharmacological, using counterpressure with gave pressure using the base of the hand on the sacral region. This purpose of the research was to identify the effect of counterpressure on intensity of pain in student respondents with dysmenorrhea.

Method: This study was a Quasy Experimental which adopts Nonequivalent Control Group Design. The research was carried out in January-February 2017 in Rusunawa Putri K.H. Sahlan Rosidi University of Muhammadiyah Semarang. The samples were 32 samples.

Result: This study showed a significant decrease in the intensity of pain after the counterpressure between the two group p-value <0.05.

Recommendation: The research gave the recommendation for nurses, adolescent to providedit needs of convenience by delivering their assistance and controlling the pain during dismenorea.

Keywords: *counterpressure, dysmenorrhoea, pain intensity*

Depression Symptom On Behavioral And Psychological Symptoms On Dementia (A Systematic Review)

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ABSTRACT

Purpose: Behavioral and psychological symptoms of dementia (BPSD) also known as neuropsychiatric symptoms, represent a heterogeneous group of non-cognitives ymptoms and behaviors occurring in subjects with dementia.BPSD include agitation, aberrant motor behavior, anxiety, elation, irritability, depression, apathy, disinhibition, delusions, hallucinations, and sleep or appetite changes.Symptoms of depression are especially common in mild cognitive impairment and throughout the course of dementia. Reported prevalence of depression or depressive symptoms in persons with dementia ranges from 0 to 96%. This review aims to study the features of depression symptom on BPSD, their assessment and management.

Collection and Analysis of Data: Literature of depression symptom on BPSD was searched in PUBMED and the relevant cross references were accessed.

Conclusions: Available literature suggests that BPSD can manifest in multiple ways; the common components are of behavioral, affective, psychotic and somatic in nature. The occurrence of depression occurring in people with MCI or dementia can lead to a number of negative outcomes. For example, pre-existing depression has been identified as a predictor of, or risk factors for, subsequent dementia. Nonpharmacological interventions are preferred as first line, which mainly include environmental modification, social interactions, minimizing effect of sensory deficits and behavioral interventions. The judicious use of medications such as cognitive enhancers, atypical antipsychotics and antidepressants has been suggested in acute, emergent situations or when BPSD do not respond to other interventions. Both pharmacologic and nonpharmacologic treatment approaches have been found to be helpful in reducing depression in cognitive impairment and dementia. Pharmacological treatment of depression in patients with dementia, although common, presents some unusual difficulties. There is a research need to address efficacy of pharmacological and nonpharmacological treatments for depression symptom on BPSD.

Keywords: *depression, behavioral and psychological symptoms, dementia, neuropsychiatric symptoms, Alzheimer's disease*

CM 1-01

Homocysteine Levels and Lipid Profile On Non DM and DM Individuals with and without Cardiovascular Complications

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ABSTRACT

Background: Homocysteine suspected to increase the risk of diabetes mellitus(DM) complications and is associated with Cardiovascular disease. Studies of relationship between homocysteine and glycemic control were inconsistent Dyslipidemia and DM are risk factor for death due to CV disease.
Objective: To analyze the difference of Hcy level and lipid profile on non DM (Group I), DM with CV(II) and without CV(III).

Methods: The cross sectional study was conducted in Dr. Kariadi hospital Semarang from April to October 2016. Sampling: consecutive, group I consist 26 person, group II (30 and III(30. Age 30-75 years old, long DM> 5 years. Fasting and and 2 hours PP glucose, lipid profile was analyzed with *auto analyzer*, Hcy with ELISA. Test different: independent t test. Significance is expressed at *p <0.05.*

Results: There was no significant difference on Hcy between group I and II; II and III and significant difference between group I and III (p 0,000). We didn't observe significant difference on total cholesterol(TC and LDLC in all groups. We found significant difference on HDLC level between group I and II (p 0,009; II and III (p 0,000; I and III (p 0,033. Trigliseride level on Group I was significant difference with II and III (p 0,030 and p 0,013), was'nt significant difference between group II and III.

Conclusion: Hcy level on DM with CV higher than non DM, The lowest HDLC and the highest Trigliseride level found on DM with CV complication.

Keywords: *DM, Homocysteine, Lipid Profile, CHD*

CM 1-02

Effect of Remote Ischemic Preconditioning in Periprocedural Myocardial Injury Events in Elective Percutaneous Coronary Intervention

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ABSTRACT

Background: Periprocedural myocardial injury (PMI) occurs in at least a third of patients underwent elective percutaneous coronary intervention (PCI). Effect of remote ischemic preconditioning (rIPC on the PMI and infarction remains elusive. Purpose of this study was to know the effect of rIPC on the PMI and infarction during PCI in patient with coronary artery disease (CAD) underwent elective PCI.

Method: Forty-two patients with stable coronary artery disease underwent elective PCI were randomized into rIPC group (n= 20) and control group (n=22). RIPC protocol was 4 cycles of inflation-deflation using a blood pressure cuff 20 mmHg above the systolic blood pressure in one of the upper arm. Assessment of PMI was determined by increase of cardiac enzyme CK-MB at 18 to 24 hours post PCI.

Result: The levels of CK-MB post PCI was significantly lower in the RIPC group than control, 25.15 ± 5.46 vs. 40.59 ± 21.16 µg/mL, respectively (p=0.003). Evidence of PMI was significant lower in the RIPC group than that of the control, 2.3% vs.19.04% (p=0.022), while that of the infarction was not significant difference between both groups, 0% vs. 2 (4.76%), respectively (p=0.489).

Conclusion: Remote ischemic preconditioning may reduce periprocedural myocardial injury in patient with CAD underwent elective percutaneous coronary intervention.

Keywords: *Periprocedural myocardial injury, remote ischemic preconditioning, creatine kinase myocardial band, percutaneous coronary intervention*

CM 1-03

The Effect of Pilates Exercise on the Quality of Life of Physical Health Domain in Obesity Adolescents Measured by WHOQOL-BREF

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ABSTRACT

Background: Obesity in adolescents frequently continues into adulthood and can cause serious problems associated with decreased activity, health problems, environmental and psychosocial problems. These problems may affect the quality of life of the adolescent. Pilates exercise can improve the quality of life of obesity adolescents
.
Objective: To know the effect of Pilates exercise on the quality of life of physical health domain in obesity adolescents measured by WHOQOL-BREF.

Methods: This study was a randomized controlled pre and post experimental study. The subjects consisted of 30 adolescents with obesity (aged 15-19 years). They were divided into two groups, experimental and control groups. The experimental group was given pilates exercise/session, three times/week for six weeks, whereas the control group didn't get any intervention. The WHOQOL-BREF questionnaire was used to assess a quality of life of physical health domain before and after six weeks intervention.

Results: There was a significant improvement in the quality of life of physical health domain of WHOQOL-BREF mean score in the intervention group after six weeks (p=0.001).
Conclusions: Pilates exercise could improve quality of life of physical health domain in obese adolescents.

Keywords: Pilates, quality of life, obesity adolescents.

CM 1-04

The Roles of Metabolic Syndrome and Several Biomarkers in the presence and severity of Non Alcoholic Fatty Liver Diseases

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ABSTRACT

Backgrounds: The prevalence of NAFLD is increasing in the world. The mechanism of pathogenesis and severity has not been clearly understood. Metabolic syndrome and some biomarkers though to play a role in incidence and severity of NAFLD.

Objective: To clarify the role of the metabolic syndrome and biomarkers : insulin resistance, adiponectin, plasma levels of TNF-α in the incidence and severity of NAFLD. We calculate diagnostic value of the metabolic syndrome with biomarkers and liver function test as non-invasive method of diagnosis and early detection severity of NAFLD.

Methods: Conducted a case control study for risk factors of NAFLD and cross sectional study for the diagnostic test severity of NAFLD. Cases were NAFLD patients and healthy subjects as controls. NAFLD diagnosis and severity classification based on liver biopsy with NAFLD activity score (NAS). Metabolic syndrome and insulin resistance evaluated based on IDF classification and HOMA IR index. Levels of insulin, adiponectine, and TNF-α were measured by ELISA.

Results: Eighty cases and 75 healthy controls were included in the study. The independent risk factors for NAFLD significantly were hypo-adiponectinemia, metabolic syndrome, of insulin resistance and high plasma levels of TNF-α consecutively. Hypo-adiponectinemia was proven as independent risk factor and diagnostic test severity of NAFLD while the metabolic syndrome, insulin resistance, high plasma levels TNF-α, were not proven as risk factors severity of NAFLD.

Conclusions: The presence of metabolic syndrome, insulin resistance, hypo-adiponectinemia high levels of plasma TNF-α were risk factors of NAFLD, while hypoadiponectinemia was proven to be risk factor and diagnostic test severity of NAFLD.

Keywords: *metabolic syndrome, adiponectine, TNF-α, NASH*

CM 1-05

The Differences of Peak Expiratory Flow Rate Before and After Vertical Run and Jogging Exercise

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ABSTRACT

Background: Running or jogging is the most popular sports in Indonesia. One of the variants is vertical run, which uses stairs as a running track. Recently in Indonesia, many skyscrapers with lift and escalator existence are constructed and causes less people using stairs. This study aimed to compare peak expiratory flow rate before and after vertical run and jogging exercise within 8 weeks.

Aims: Knowing the differences of peak expiratory flow rate between before and after vertical run and jogging exercise.

Method: This study design is a Quasi Experimental with pre-test and post-test unequivalent group. Fifteen people joined vertical run exercise and 14 people joined jogging exercise within 8 weeks. Peak expiratory flow rate before and after exercise were measured using mini-wright peak flow meter. Data is analyzed by dependent t-test and independent t-test.

Results: Peak expiratory flow rate before vertical run and jogging exercise are 567,56 ±61,79 L/minute and 534,76 ±72,78 L/minute, respectively. While, peak expiratory flow rate after vertical run and jogging are 592,44±53,77 L/minute and 552,14±70,75 L/minute, respectively. The difference between peak flow rate before and after on both vertical run and jogging exercise are significantly increase (p=0,001) and (p=0,002). However, peak expiratory flow rate in vertical run exercise is higher than jogging (p=0,094).

Conclusion: Peak expiratory flow rate is significantly increased either after both vertical run or jogging exercise. However, the magnitude of peak expiratory flow rate after vertical run excecise is higher than jogging.

Key words: *Peak expiratory flow rate, vertical run, jogging*

CM 1-06

Risk and Early Changes of Left Ventricular Structure and Function in Young Obesity

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ABSTRACT

Introduction: The increased adipose tissue in obesity had an extensif capillary vessels, secretes mediators that could influence left ventricular (LV functions directly. Previous study mostly showed normal ejection fraction in obesity. Compare with strain methods, peak systolic velocity is a non load-dependent echocardiography technique that strongly related with contractilty.

Methods: This was a cross sectional analytic study, taken at Dr.Kariadi Hospital, Semarang, Indonesia. Subjects had Body Mass Index (BMI ≥18,5 kg/m^2), 15-40 years old age, without any comorbids. Subjects categorized as an obese (BMI ≥27 kg/m^2) and non-obese (BMI <27). Relations analyzed with independent t-test and multivariat regression logistic.

Results: The study enrolled 110 subjects, 63 (57%) of them were obese. In LV structure, obese subjects had a higher RWT and LVMI (0,34 vs 0,45); p=0,00 and 73,38 vs 99,02 g/m^2; p=0,00. In LV systolic function, there was no difference in LVEF, but obese subjects had a significant lower Sm (68,87 vs 70,81 %); p=0,120 and 4,72 vs 3,62 cm/s; p=0,00. In LV diastolic function, obese subjects had a lower Em (8,84 vs 7,05 cm/s; p=0,00, a higher E/e' ratio and LAVI (7,59 vs 10,03 ms); p=0,00 and 15,39 vs 19,00 ml/m^2; p=0,00. Obese subjects had 1,36 times higher to develop abnormal structure; 1,22 times higher to develop early systolic dysfunction and 1,33 times higher to develop diastolic dysfunction rather than non-obese subjects.

Conclusion: In young isolated obesity, although with normal ejection fraction, we found higher risk and early changes of left ventricular structure, and early dysfunction both on systolic and diastolic function.

Keywords: *obesity, LV structure, tissue velocity echocardiography*

CM 1-07

Serum Neopterin Levels Related to the In-hospital Adverse Outcome, 3-months Adverse Outcome and Rehospitalization in Patients with Coronary Artery Disease and Diabetes Mellitus

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ABSTRACT

Introduction. Chronic inflammation in diabetes mellitus (DM) activates cellular immune systems and damages the vascular endothelial. Neopterin is a biomarker for cellular immune responsible for the vulnerability and the progessivity of coronary artery disease (CAD) in patients with DM. The aim of this study was to determine the levels of serum neopterin in patients with DM and with stable angina pectoris (SAP) or acute coronary syndrome (ACS) [ie. unstable angina pectoris (UAP), non-ST elevation myocardial infarction (non-STEMI), or ST elevation myocardial infarction (STEMI)], as well as the difference between serum neopterin levels in each patient outcomes, including the in-hospital adverse outcome, 3-months adverse outcome, and rehospitalization in 1 year.

Method. A cohort study in patients with CAD and DM underwent coronary angiography at dr. Kariadi Hospital from May to September 2016. Serum neopterin was taken through a peripheral vein at the beginning of this study. Patients were followed-up for in-hospital adverse outcome, 3-months adverse outcome, and rehospitalization in 1 year. Mann-Whitney test determined the difference between neopterin levels in SAP and ACS. Kruskal-Wallis determined the difference between neopterin levels in SAP, UAP, non-STEMI and STEMI.

Results. There were 74 patients consisted of 41 patients with SAP and 33 patients with ACS, i.e. 7 patients with UAP, 13 patients with non-STEMI, and 13 patients with STEMI. Neopterin levels were siginificantly different between patients with SAP (8,7±2,03 and patients with ACS (22,9±7,51 (p=0,000)), and between SAP (8,7±2,03, UAP (24,9±7,20), non-STEMI (24,1±7,78), and STEMI (20,7±7,53 (p=0,000)). All patients with ACS (n=33; 100% had neopterin value >10 nmol/L, while 22 patients with SAP (53,7%) had neopterin value ≤10 nmol/L, but 19 patients with SAP (46,3%) had neopterin value >10 nmol/L (p=0,000). Groups with in-hospital adverse outcome, including lethal ventricular arrhythmia (n=4), acute heart failure (n=3), and recurrent ACS (n=15), had a higher neopterin levels at the beginning of the study in comparison to group without in-hospital adverse outcome (n=52) (33,02±13,56 vs 11,04±3,90 (p=0,000). Groups with 3-months adverse outcome, including acute heart failure (n=4) and recurrent ACS (n=24), had a higher neopterin levels at the beginning of the study in comparison to group without 3-months adverse outcome (n=46) (29,54±13,79 vs 10,29±3,39) (p=0,000). Groups with rehospitalization, including rehospitalization < 6 months (n=8) and 6 months to 1 year (n=20), had a higher neopterin levels at the beginning of the study in comparison to group without rehospitalization (n=46) (29,54±13,79 vs 10,29±3,39) (p=0,000).

Conclusion. Patients with ACS, including UAP, non-STEMI, and STEMI, had higher neopterin levels than patients with SAP. The higher cellular inflammation may predict the in-hospital adverse outcome, 3-months adverse outcome, and rehospitalization in patients with CAD and DM.

Keywords: *neopterin, CAD, SAP, ACS, UAP, non-STEMI, STEMI*

CM 1-08

Effects of Neo Automatic Code on the accuracy of chest compression depths in cardiac arrest patients

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ABSTRACT

Objective : to analyze the effects of manual chest compression using neo automatic code on the accuracy of compression depths.

Methods : This study used a quantitative, post test quasi-experimental design with a control group. The samples were 74 cardiac arrest patients in two hospitals in Surakarta and Klaten, who were selected using purposive sampling technique. The data were analyzed by the Mann-Whitney test.

Results : the mean of accuracy of compression depth in the control group was $68.10 \pm 17.60\%$, and in the treatment group was $83 \pm 6.04\%$. The result of statistical analysis showed that there were differences in the accuracy of compression depth in the intervention and control group with p-value of 0.000.

Conclusion: there were effects of manual chest compression using neo automatic code on the accuracy of compression depths. Neo automatic code could improve the accuracy of chest compression depths.

Keywords: cardiac arrest, chest compression, compression depth accuracy, neo automatic

CM 1-09

In silico candidate of aldosterone antagonist for treatment of cardiovascular disease

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ABSTRACT

Aldosterone antagonist has been used for treatment of cardiovascular diseases such as heart failure. Docking technique using bio-computational approach has been used to explore the phytochemicals derived from Indonesian plants for treatment. Three dimensional structure of MR was obtained from a protein data bank with access code 3VHU. The structure of aldosterone antagonists (spironolactone and eplerenone) as standard ligand was obtained from the ZINC database with code access ZINC03977913 and ZINC72187491. Validation of binding between MR and standard ligand was done three times using AutoDock Vina 1.1.2 software and the result was used as standard parameter to explore aldosterone antagonist candidate. Indonesian phytochemicals from the HerbalDB database were screened based on Lipinski Rule of Five. The molecular interaction between MR and phytochemicals was visualized using Chimera 1.9 software. Experimental result showed that spironolactone and eplerenone had binding energy at -9.5 and -9.7 kcal/mol respectively. There were six phytochemicals with lower binding energy to MR than the standards. Based on the similarity of amino acid residue binding and lower binding energy, Sojagol was the only compound that fulfilled the criteria. Sojagol might become in silico antagonist of aldosterone. Sojagol is a secondary metabolite that is commonly found in mung beans.

Keywords: *aldosterone antagonist, cardiovascular disease*

CM 1-010

The Effect of Virtual Reality Game Exercise on Cardiorespiratory Fitness in Overweight Adolescent Measured by Six Minute Walking Test (6MWT)

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ABSTRACT

Introduction: Overweight and obese childrens are tend to decrease cardiorespiratory fitness. Virtual Reality games allows users to perform low to high intensity physical activities. This game can be prescribed as an exercise to improve cardiorespiratory fitness. The six-minute walk test (6MWT) is a useful and simple test for estimating the cardiopulmonary fitness in obese and overweight children population. The purpose of this study is to determine the effect of Virtual Reality Game exercise on cardiorespiratory fitness (VO_2max) in *overweight* adolescent measured by 6MWT.

Methods: A *Randomized experimental pre and post test controlled group design study* was conducted to thirty students of junior high school that fulfilled the inclusion and exclusion criteria. VO2max value was the conversion of six minute walking distance (6MWD) that measured by 6MWT. Intervention group underwent 6 weeks *Virtual Reality Game* exercise (game your shape fitness evolved 2012 Xbox-kinect) in moderate intensity according American College of Sport Medicine (target heart rate 64-75 %HR max), 3 times/week with the duration of exercise 40 minutes exercise/session (warming up 5 minutes, Virtual Reality Game exercise 30 minutes, and cooling down 5 minutes).
Results: There was statistically significant improvement of VO_2max mean value mean before and after study that found in intervention group (p=0,000), but there was no significant different of six VO_2max mean value in control group (p= 0,891). There was statistically significant difference of VO_2max mean value between intervention and control groups at the end of the study (p=0,000).

Conclusions: 6 weeks Virtual Reality Game exercise in moderate intensity, 3 times/week, 40 minutes exercise/session could improve cardiorespiratory fitness (VO_2max) *overweight* adolescent measured by 6MWT. This is an effective and enjoyable exercise program to promote a physically active lifestyle and to improve cardiorespiratory fitness in children overweight adolescent

Keywords: *Virtual Reality Game, exercise, cardiorespiratory fitness.*

CM 2-01

Oral N-Acetyl Cysteine Lowered IL 6 Level Among Stage V Chronic Kidney Disease Patients on *Continuous Ambulatory Peritoneal Dialysis* (CAPD)

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ABSTRACT

Background: IL 6 level is increased in stage V CKD patients on CAPD. N-Acetyl Cysteine is a compound containing thiol with antioxidant and anti-inflammatory effects.

Objective: To examine the effect of oral NAC on IL 6 level in stage V CKD patients on CAPD.

Method: An experimental research with Randomized Double-Blind Control Trial, involving 30 CKD patients on CAPD in Dr Moewardi Hospital. They were divided into control group/placebo (15 patients) and oral NAS treatment group (15 patients). IL 6 level was measured before and after 8 weeks of treatment.

Result: Level of IL 6 before and after treatment in control group were (8.13 $\pm$ 7.62 vs 11.16 $\pm$ 8.32 , p= 0,001), significantly (p<0,001). Level of IL 6 before and after treatment in treatment group were (9.72 $\pm$ 7.29 vs 6.09 $\pm$ 3.82, p = 0,002); lowered significantly (p<0,05).

Conclusion: Oral NAC lowered the level of IL 6 in stage V CKD patients on CAPD.

Keywords: *N-Acetyl Cysteine, CAPD, IL 6*

CM 2-02

The Effect of Modified "Dolanan Bocah" Dance to Dynamic Gait Index in Obese Children Aged 7-10 years old

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ABSTRACT

Introduction: Obesity will significantly change body movement and balance. The risk of falls, associated with balance and postural control, will increase in obese children. Modified Dolanan Bocah Dance is a traditional Javanese dance whichcontainsmoves that can improve postural control, ROM and balance. This study investigates the effects of modified Dolanan Bocah dance on balance disturbance that obese children tend to suffer.

Method: This study was a randomized controlled pre and post experimental study. A total of 30 obese children (7 to 10 years of age) were randomly assigned into 2 groups: experimental and control group. The first group practiced the dance for 10minutes 3 times a week for 6 weeks while the latter group performed their usual daily activities. Dynamic gait index (DGI score was measured before treatment and at the end of the 6th week of the treatment.

Results: There was a significant difference on the mean of the DGI scores between the experimental group (20(18-20)) and control group (18(16-19)), p = 0.000 at the end of the 6th week of treatment.

Conclusion: Modified Dolanan Bocah dance could improve balance and postural control of obese children and reduce the risk of falls.

Keywords: *Obese children, balance, dolanan bocah dance*

CM 2-03

Effect Of Modified " Dolanan Bocah" Dance to Attantion Function In Obese Children Aged 8 – 10 years Old

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ABSTRACT

Background: People withobesity isthe lowest quartile of cognitive and intelligence.Attention is one of the cognitive domains. The objective of this study was to determine the effect of modified Dolanan Bocah dance to attention function at obese children aged 8-10 years old.

Method: This study was a randomized pre and post test controlled group design. Thirty subjects ofobesity students aged 8-10 years old were participated in this study. The subjects were randomly assigned into two groups: experimentaland control group.The experimental group was given a 10 minute modified Dolanan Bocah dance program, with frequency 3 times a week while the control group performed usual daily activities. Attention function was assessed with Digit Span (Total Digit Span (TDS), Digit Span Score (DSS) and Equivalent Persentile Digit Span (PDS)) before treatment and at the end of the 6th weeks of treatment.

Results: There was a significant difference in experimental group but not in control group. There was significant increment in TDS, DSS, and PDS score in experimental group (p = 0.000) compared to control group.

Conclusion: Modified Dolanan Bocah dance can improve attention function on children with obesity.

Keywords*: attention, dolanan bocah dance, obese children*

CM 2-04

TNF-α-gene polymorphisme is likely to be a risk factor for NASH in Indonesia

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ABSTRACT

Introduction: Non alcoholic steatohepatitis (NASH is a subset spectrum of NAFLD that can progress toward cirrhosis. Tumor necrosis factor-α (TNF-α) polymorphism play a significant role in the regulation of immune cells, liver injury and inflammation. In this study, the association between TNF-α (-238 and -308) polymorphism and the development of NAFLD was evaluated.

Method: A total of 155 subjects (80 NAFLD cases and 75 controls were included. Liver biopsy was performed in all NAFLD cases. Plasma TNF−α was measured in all subjects. Polymorphisme of`TNF-α promoter gene -308 and -238 were identified using PCR-RFLP confirmed with direct sequencing.

Results: Liver biopsy established the diagnosis of NASH in 29 cases. There was no association between the incidence of NAFLD with TNF-α polymorphism at the TNF−α -308 or the -238 (p>0.05). The prevalence ratio of TNF−α polymorphism -238 was significantly higher for subject with NASH (p< 0.02). On the contrary, there was no different prevalence ratio for TNF−α polymorphism -308 (p>0,05). We found novel polymorphism of TNF-α -245 T/C in a subject with possible NASH, high plasma TNF-α level (20.27 pg/cc) and very high value of Homeostasis Model of Assessment - Insulin Resistance HOMA-IR (22.73). Also we found in one subject with double polymorphisms (haplotypes) with the highest score severity of NASH (NAS = 7).

Conclusion: Polymorphism TNF-α -238 is likely to be a risk factor for NASH in Indonesia. The identification of new possible polymorphism of TNF-α -245 requires further study in more samples.

Keywords: *Polymorphism TNF-α, Risk Factor, NASH*

CM 2-05

Differences of Erythrocyte Fragility and Hemoglobin Levels (Hb) In Light Smokers, Moderate - Heavy Smokers and Non Smokers

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ABSTRACT

Introduction: A large amount of oxidant content in cigarette smoke increases the amount of oxidative stress in smokers. Such free radicals can directly damage the cell membrane (including erythrocytes with membrane lipid peroxidation, which may cause lysis of the erythrocytes. This hemolysis releases Hb and the cellular constituents into the blood plasma so that the serum or plasma to appear pale red to cherry red in color. This can be determined by measuring the erythrocyte fragility and Hb levels

Method: This research is descriptive analytic research with cross sectional approach. The study period is January 2017-August 2017. Samples are students of Diponegoro University, not smokers, light smokers, and moderate smokers who meet the inclusion and exclusion criteria of 81 people divided into 3 groups. The erythrocyte Fragility data and Hb levels are the primary data. Data is processed by using SPSS.

Results: The result shows that the mean of Hb level of non smokers, light smokers, and moderate-heavy smokers is respectively 17,12±3,262 g/dL; 17,70±2,88 g/dL; dan 18,70±2,69 g/dL (p=0,144). There's a significant increase of percentage of erythrocyte fragility both in moderate-heavy smokers (55,268% and light smokers (47,710%) if it is compared to non smokers (28,264%) (p=0,000).

Conclusion: This research shows that there's no significant increase of Hb level among moderate-heavy smokers, light smokers, and non-smokers; and there's a significant increase of erythrocyte fragility in NaCl 0,4% concentration between moderate to heavy smokers and light smokers in compare to non-smokers.

Keywords: *Smoker, Erythrocyte Fragility, Hb Level*

CM 2-06

Relationship Waist Circumference, Thick of Skinfolds and Genes Polymorphism of Angiotensin - Converting Enzyme Insertion/ Deletion with Hypertension in Coastal Community

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ABSTRACT

Introduction: One third of the world's total deaths caused by cardiovascular diseases in which one is the cardiovascular complications of hypertension. One of the risk factors of hypertension is obesity, central obesity was described by waist circumference is more sensitive in predicting metabolic disorders and cardiovascular risk. Skinfolds of the most accurate indicators between anthropometric parameters that reflect the type of body fat reserves. Angiotensin-converting enzyme (ACE) was reported as an enzyme that plays a role in hypertension patogenesis. The purpose of this research to determine the relationship waist circumference, thick of skinfolds and Angiotensin Converting Enzyme Insertion/Deletion (ACE I/D) genes polymorphism with hypertension in coastal community of Kendari City.

Method: This research was an analytical research using case sontrol studied approach. The population were a coastal community in working area of public health centre. DNA isolation, PCR analysis performed in the Laboratory of Medicine Faculty, University of Halu Oleo. The sampel were 70 people chosen with using purposive sampling method. The results of this studied were analyzed using chi-square test and Odd Ratio (OR).

Results: The result of analyzed were waist circumference with hypertension (p=0,001; OR=5,333, 95% CI=1.839-15.471). Thick of skinfold with hypertension (p=0.550; OR=0.698, 95% CI=0.241-2.275), ACE I/D gene polymorphism with hypertension (p=0.631; OR=0.794, 95% CI= 0.310-2.037).

Conclussion: There was relationship between waist circumference with hypertension. There weren't relationships between thick of skinfold and Angiotensin Converting Enzyme Insertion/Deletion genes polymorphism with hypertension in coastal communities.

Keywords: *Waist circumference, Thick of Skinfold, Genes Polymorphisms, Angiotensin Converting Enzyme, Hypertension*

CM 2-07

The Correlation between Serum Lactate Levels to the Lenght of Stay in Intensive Care Unit in Patients with Rheumatic Valvular Heart Surgery

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ABSTRACT

Introduction: Cardiopulmonary bypass (CPB) in valvular heart surgery may be complicated with microembolism, low tissue oxygenation, and increased serum lactate levels. Serum lactate levels can predict postoperative outcomes. The aim of this study was to correlate serum lactate levels to the length of stay (LOS) in intensive care unit (ICU) in patients with rheumatic valvular heart surgery (RVHS).

Method: This was an observational prospective cohort study in 30 patients with RVHS from July 2015 to June 2016 in Dr. Kariadi hospital Semarang. Serum lactate levels were examined in 1 hour after RVHS. Patients were divided into 2 groups, i.e. group with lactate levels < 3,0 mmol/L and with ≥ 3 mmol/L. Patients were followed-up during hospitalization. The differences in LOS in ICU were analyzed by non-parametric Mann-Whitney test. The correlation between serum lactate levels and the LOS in ICU was analyzed by Spearman correlative test.

Results: The average of lactate levels was 3,59±1,06 mmol/L. The average of CPB time was 68,73±8,55 minutes. The median of LOS in ICU was 3 days (range 2-6 days). There were no differences in baseline characteristics, echocardiographics and laboratory data, between group wih lactate <3 mmol/L and ≥3 mmol/L, except height (155,60±3,58 vs 162,36±6,62, p=0,036), heart rate (79,80±8,67 vs 91,36±10,19, p=0,025) and CPB time (57,40±4,93 vs 71,00±7,22, p=0,001). However there were no correlation between height (Spearman r=0,131, p=0,490) and heart rate (Spearman r=0,116, p=0,540) with the LOS in ICU. There were no significant differences on LOS in total in-hospital [median 14 days (range 10-21 days) vs median 15 days (range 10-24 days), p=0,954] and on LOS in ICU [median 3 days (range 2-5 days) vs median 4 days (range 2-6 days), p=0,132], between groups <3 mmol/L and ≥3 mmol/L. There was a correlation between serum lactate levels and the LOS in ICU (Spearman r=0,522, p=0,003). There was a correlation between CPB time and the lactate levels (Spearman r=0,585, p=0,001), but there was no correlation between CPB time to the LOS in ICU (Spearman r=0,354, p=0,055).

Conclusion: There was a moderate positive correlation between serum lactate levels and the LOS in ICU from patients with RVHS. There was a moderate positive correlation between CPB time and the lactate levels, but there was no direct correlation between CPB time to the LOS in ICU.

Keywords: *valvular heart surgery (VHS), rheumatic heart disease (RHD), serum lactate, Intensive Care Unit (ICU), length of stay (LOS)*

CM 2-08

The Correlation between Serum Lactate Levels to the Lenght of Stay in Intensive Care Unit in Patients with Coronary Artery Bypass Grafting Surgery

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ABSTRACT

Introduction: Coronary artery bypass grafting surgery (CABG) is a definitive treatment improving blood flow to the heart in coronary artery disease (CAD). Serum lactate levels in CABG is associated with low tissue perfusion and predicts postoperative outcomes and lenght of stay (LOS). The aim of this study was to asses the correlation between serum lactate levels to the LOS in intensive care unit (ICU) in patients with CABG.

Method: This was an observational prospective cohort study in 55 patients with CABG from December 2015 to June 2016 at Dr. Kariadi hospital Semarang. Serum lactate levels were examined from all patients in 1 hour after CABG. Patients were divided into 2 groups, i.e. group with lactate levels < 4,0 mmol/L (n=28) and with ≥ 4 mmol/L (n=27). Patients were followed-up during hospitalization. The differences in LOS in ICU were analyzed by non-parametric Mann-Whitney test. The correlation between serum lactate levels and the LOS in ICU was analyzed by Spearman correlation test.

Results: The average of lactate levels was 4,13±2,42 mmol/L. The average of CPB time was 69,04±6,69 minutes. The median of LOS in ICU was 4 days (range 2-21 days). There were no differences in baseline characteristics, echocardiographics, laboratory data, and the aortic cross clamp duration, between group wih lactate <4 mmol/L and ≥4 mmol/L, except in CPB time [69,5 (55-60 vs 69 (55-80 minutes), *p*=0,026]. There were no differences on LOS in total in-hospital (12,57±3,98 vs 13,59±5,46), *p*=0,622 and on LOS in ICU [4 days (range 2-7 days) vs 4 days (range 2-21 days), *p*=0,454], between groups <4 mmol/L and ≥4 mmol/L. There was a correlation between serum lactate levels and the LOS in ICU (Spearman r=0,40, *p*=0,002). There was a correlation between CPB time and the lactate levels (Spearman r=0,30, *p*=0,026), but there was no correlation between CPB time to the LOS in ICU (Spearman r= 0,259, *p*=0,056).

Conclusion: There was a moderate positive correlation between serum lactate levels and the LOS in ICU from patients with CABG. There was a weak positive correlation between CPB time and the lactate levels, but there was no direct correlation between CPB time to the LOS in ICU.

Keywords: *coronary artery bypass grafting surgery (CABG), coronary artery disease (CAD), serum lactate levels, Intensive Care Unit (ICU), lenght of stay (LOS)*

CM 2-09

The Difference in Cognitive Functions between Patients with Acute Coronary Syndrome with and without ST Segment Elevation

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ABSTRACT

Introduction: Cognitive function is a process in which individuals can understand sensory input that he get. Cognitive impairment may decrease individual functional status and quality of life. Acute coronary syndrome (ACS) may lead to cognitive impairment. There is still no study on the differences in the levels of cognitive function between ACS patients with and without ST elevation (STE-ACS vs NSTE-ACS). This study was to determine the differences in the levels of cognitive function between ACS patients with and without ST elevation (STE-ACS vs NSTE-ACS).

Method: This was an observational cross sectional study using consecutive sampling method. There were 41 subjects that consist of 21 (51.2%) subjects with STE-ACS and 20 (48.8%) subjects with NSTE-ACS at ages ranging from 25-70 years. All subjects were examined for their cognitive function using MoCA Ina score with blinding for their diagnosis. Statistical test were performed using independent t-test and non-parametric Spearman correlation test.

Results: There were no differences in baseline characteristics between STE-ACS and NSTE-ACS, except gender (p=0,020), dislipidemia [n=20 (95,2 %) vs n=14 (70,0%), p=0,045], trigliseride levels [160 (79-268) vs 106,5 (63-221) mg/dl, p=0,002], and smoking [n=14 (66,7%) vs n=7 (35,0%), p=0,043]. However, there were no correlations between MoCA Ina score with gender (male vs female, n=22,00 (12-27) vs n=21,50 (18-25), p=0,987), dislipidemia (p=0,076), trigliseride levels (p=0,111), and smoking (p=0,532).
There were significant differences in CKMB [69,0 (21,0-292,0) vs 17,5 (10,0-128,0) U/L, p=0,000], and troponin [5,23 (0,01-22,22) vs 0,01 (0,01-8,281) μg/dL, p=0,000], between STE-ACS and NSTE-ACS. There was significant difference in MoCA Ina score between STE-ACS and NSTE-ACS (20,86±3,41 vs 23,05±2,58, p=0,026) using independen t-test. There were significant negative correlation between CKMB (r=-0,346, p=0,027) and troponin (r=-0,398, p=0,010) with MoCA Ina score using non-parametric Spearman correlation tes.

Conclusion: There was a lower levels of cognitive function in STE-ACS in comparison to NSTE-ACS. There was a weak negative correlation between CKMB and troponin with cognitive function.

Keywords: *acute coronary syndrome (ACS), STE-ACS, NSTE-ACS, cognitive function, MoCA Ina score*

CM 2-10

The Differences in Cognitive Functions between Patients with Severe and Non-severe Mitral Regurgitation

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ABSTRACT

Introduction: Cognitive function includes memory, attention, execution function, psychomotor speed, language (speech), and visuospatial ability. Cognitive impairment may decrease individual functional status and quality of life. Heart failure may lead to cognitive impairment. However, there has been no research that explains the relationship of mitral regurgitation (MR) severity with the cognitive function. This study was to determine the differences in the levels of cognitive function between patients with severe MR and non-severe MR.

Method: This was an observational cross sectional study using consecutive sampling method. There were 81 subjects that consist of 29 subjects with severe MR and 52 subjects with non-severe MR, at ages ranging from 20-65 years that were hospitalized in Dr.Kariadi central hospital Semarang from February 2016 to May 2016. All subjects were examined for their cognitive function using MoCA Ina score with blinding for their diagnosis. Statistical test were performed using Mann-Whitney test and non-parametric Spearman correlation test.

Results: There were no differences in baseline characteristics between severe MR and non-severe MR, except the history of hypertension (p=0,022), history of dyslipidemia (p=0,013), history of diabetes mellitus (p=0,044), and atrial fibrillation (p=0,006). However, there were no differences in MoCA Ina score based on history of hypertension [with vs without hypertension, 22 (9-28) vs 23 (4-30), p=0.615], history of dyslipidemia [with vs without dyslipidemia, 22 (12-27) vs 23 (4-30), p=0.967], history of diabetes mellitus [with vs without diabetes mellitus, 22 (9-26) vs 23 (4-30), p=0.249], and atrial fibrillation [with vs without, 21.5 (4-25) vs 23.0 (9-30), p=0.061]. There were differences in baseline echocardiographics parameters between severe MR and non-severe MR, such as left atrial diameter (LAd) [52.0 (34.0-88.0) vs 43.0 (23.0-83.0) mm, p=0.001], and left ventricular internal diameter in diastolic (LVIDd) [56.0 (35.9-74.0) vs 47.0 (15.00-82.00) mm, p=0.040]. But there were no correlation between LAd (r=0.001, p=0.993) and LVIDd (r=0.094, p=0.404) with MoCA Ina score using non-parametric Spearman correlation test. There was significant difference in MoCA Ina score between group with severe MR and non-severe MR [21.0 (4-30) vs 23.0 (9-30), p=0.019] using Mann-Whitney test.

Conclusion: There was a lower levels of cognitive function in severe MR in comparison to non-severe MR. There were larger LAd and LVIDd in severe MR in comparison to non-severe MR as well as there was more prevalence of atrial fibrillation in severe MR in comparison to non-severe MR, although no correlation between LAd and LVIDd with cognitive function.

Keywords: *mitral regurgitation (MR), left atrial diameter (LAd), left ventricular internal diameter in diastolic (LVIDd), cognitive function, MoCA Ina score*

CM 2-011

Level of hsCRP maternal serum during puerperium of severe preeclampsia

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ABSTRACT

Background: Preeclampsia and eclampsia are still major problems in the world. Maternal mortality of severe preeclampsia at the puerperal period is likely to be greater because of the cardiovascular disease (CVD). hsCRP is a usefull prediction for CVD among non preeclamptic patients. Before using hsCRP as a marker for that prediciton of preeclamptic patient, we should do research to know difference of hsCRP between preeclampsia and normal pregnancy.

Objective: To determine the differences in the levels of hs CRP mother with severe preeclampsia and normal pregnancy

Method: This study used a descriptive research by using *cross sectional study*. Subject was postpartum women 2 - 6 weeks at Hospital dr. Kariadi Semarang with a history of severe preeclampsia and normoal pregnancy. All subjects were examined the levels of hsCRP maternal serum.

Result: Subjects were consist of 26 severe preeclampsia (53%) and 23 normal pregnancy (46.9%). Level of hsCRP in severe preeclampsia was 4,73 $\pm$ while in normotensive 2.42 $\pm$ 4.14 ($p < 0.05$). Severe preeclampsia group will increase the risk of hsCRP rise as much as 2.5 times compared to the normotensive group.

Conclusion: Level of hsCRP levels in patients with preeclampsia post partum were higher than patients with normal pregnancies.

Keywords: *High Sensitivity C-Reactive Protein,* Severe Preeclampsia, Puerperal

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CM 2-012

The Correllation between Blood Glucose (BG), Hypertension (HT), Proteinuria, Blood Sedimentation Rate (BSR) and Differential Blood Count(DBC) in Prolanis patients (DM type 2 and Hypertension) through molecular action.

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ABSTRACT

Introduction: Prolanis (Program pelayanan Penyakit Kronis) is a chronic disease service program, which caters to chronic diseases to achieve an optimal, effective and efficient quality of life. The types of diseases served are hypertension and type 2 DM. By 2016 there are 480 cases with type 2 DM, with 384 cases of 384, while DMT2 and HT remainder. WHO predicts people with DMT2 in Indonesia from 8.4 million (2000) to 21, 3 million by 2030. DM (diabetes mellitus) is increased of blood glucose levels due to insulin resistance. Hypertension is a major risk factor for DM, can make the cells insensitive to insulin (insulin resistance). By examining the levels of blood glucose, blood pressure. proteinuria, blood sedimentation rate , and differential blood count (DBC) on early detection it will help in the management of DM so as to reduce the incidence of renal failure and its complications. Proteinuria is a sign of protein produced in the urine from the presence of kidney damage (diabetes nephropati). The rate of blood sediment rate (BSR) is a sign of inflammation. Differential blood count (DBC)is part of the immune system that is responsible for the body's defense against infection. The strict cellular and molecular interactions between the kidney, diabetes, and cardiovascular system in a series of acute chronic diseases are becoming increasingly apparent. However, patho-physiological basis of CKD, DM, and CVD interactions with multiple engagements Endogenous and environmental factors are very complex and our knowledge is still there improving. Not only the single path and mediator the progression of this disease to be considered in this process but also the interaction of these factors important

Objective: to know the correlation between blood sugar (BS), Hypertension , proteinuria, blood sedimentation rate (BSR) and Differential blood count(DBC).

Methods: research design is descriptive analytic study with cross sectional approach. In Clinic Prolanis Ikhlasul Amal Kebumen during April-June Period 2017. The study was taken for 30 people from the total population based on Inclusion and Exclusion criteria. Data were analyzed using Spearman correlation test as data were not normal and then correlation test using value test to show relationship direction. P value test showed significant correlation when p <0,05.

Discussion and conclusion:Microangiopathic and macroangiopathic complications such as diabetes mellitus (BG) , Hypertension , diabetic neuropathy (proteinuria) are often susceptible to infection (BSR, and differential blood count) are recommended biomarkers in proline patients. There correlation will be significant between Blood glucose , hypertension, proteinuria, BSR, and differential blood count in prolanis patients (DMT2 and HT) were at p<0.05.

Keywords: DM T2, Hypertension, Proteinuri, BSR, differential blood Count , inflammation, molecular action.

"To bring scientific knowledge from bench to bedside"