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Province, Indonesia  
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## Family Planning Unmet Need; Determinant Factors and Strategy Design through Health Management Approach and Fishbone Analysis in Riau Province, Indonesia

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**Abstract.** The high number of unmet needs for Family Planning (FP) in Indonesia has an effect on birth spacing and the number of parities so that there is a high risk of maternal and infant mortality. Based on data from the Family-Program Performance and Accountability Survey (PPAS) from the National Population and Family Planning Board (NPFPPB) in 2019, 51% of Fertile Age Women (FAW) were not willing to use FP. This study aims to describe the determinant factors and strategies to reduce the incidence of unmet needs for FP. The method used was a quantitative descriptive study conducted in July-September 2021. The data collection technique analyzed the program performance and accountability survey report data from NPFPPB in 2019 (secondary data). The result was that the determinant factors of the unmet need for FP include: age 30-49 years (60.1%), parity having 6 or more children (73.6%), reasons for fertility (32.89%), being against using (7.9%), lack of knowledge about 8 modern FP tools/methods (15.5%), reasons for FP tools/methods (34.65%). Meanwhile, the majority of information on FP was obtained through television (91.9%), direct information through midwives/nurses (77.5%). The strategy to reduce the number of unmet need for FP was through a health management approach with five stages, namely: 1. Assessment to identify the number of Fertile Age Couple (FAC) unmet need for FP, demographic characteristics, and reasons for not using contraceptive tools/methods; 2. Mapping step, case mapping per region, 3. Planning, service planning process, 4. action, service delivery based on planning, 5. Evaluation monitoring stage, monitoring process, and activity evaluation. Six management elements are used for fishbone analysis, namely: man, money, method, material, machine, and market. It requires a high commitment to all stakeholders so that the implementation of the strategy can be realized.

**Keyword:** Unmet Need, Family Planning (FP), Health Management Approach, Fishbone

### 1. Introduction

Unmet Need is one of the important concepts used for the development of Family Planning (FP) policies. Unmet need is the percentage of women who are not currently using a contraceptive method and do not want more children or delay pregnancy but do not use any type of contraception [1]. In Indonesia, the number of unmet needs for FP in 2017 reached 10.6% [2]. Although, the target set by the Millennium Development Goals (MDGs) in 2015 was 5% [3]. Unmet need is one of the factors that cause 75% of maternal deaths in Indonesia and the world [4]. The maternal mortality rate in Indonesia in 2015 was 305/100,000 live births [5].

When this is not addressed immediately, this case will get higher. The Fertile Age Women (FAW) who do not use FP have a high chance of getting pregnant, and complications can occur during pregnancy, childbirth, and the postpartum period such as abortion due to unwanted pregnancy [6] [7]. The FAW does not want to have more children or want to space out pregnancies but does not use any contraception [8-10].

Several determinant factors that affect the number of unmet needs for FP continue to increase, including place of residence [11], educational status [12-15], employment status [16], communication with health workers [17], and discussions with their spouse. Riau is one of the provinces in Indonesia that has a high problem of unmet need for family planning, which is 16.2%. The target should have been 11.5% and still far from the national target of 5%. The high Unmet Need for FP is a challenge that must be faced by the National Population and Family Planning Board (NPFPPB) in reducing the number of Unmet Need for FP [18].

Several other determinant factors were stagnant use of contraceptives, inappropriate use of Fertile Age Couple (FAC/PUS), less than optimal services related to unmet need due to access to services, culture, certain beliefs of the community, access to services that are still limited, contraceptive users who drop out, lack of knowledge FAC regarding contraceptive methods, unequal knowledge of adolescents about the ideal age for marriage, Lack of Communication, Information and Education (CIE) about contraceptive tools or methods that are accepted either through the media or directly [19].

The target for Unmet Need for FP in 2020 was 8.6%, and 7.4% in 2024. The target for reducing Unmet Need has not been achieved, this is caused by several things. Firstly, many areas have not been reached by access to services because there are still many areas that do not have health facilities to serve family planning. Secondly, the lack of knowledge for the community about the side effects of using contraceptives. Thirdly, public trust and knowledge about Unmet Need, and the prohibition of a husband or spouse [19].

The data collection for Unmet Need for FP has been carried out by the NPFPPB in 2019, which was stated in the Program Performance and Accountability Survey (PPAS) report. The data showed that 51% of FAW are not willing to use modern FP tools. Therefore, to help NPFPPB reduce Unmet Need for FP according to the government's target, it is necessary to analyze the determinant factors that influence the attitude of FAW towards the unmet need for FP and develop strategies to reduce the incidence of Unmet Need in Riau Province.

## 2. Method

The type of research was descriptive quantitative with secondary data collection techniques from the Family-Program Performance and Accountability Survey (PPAS) report from the National Population and Family Planning Board (NPFPPB). The number of respondents based on age and parity was 19,085 people. However, the number of respondents for the determinants of the causal factors was 7,701 people. The data analysis process was carried out for three months (July-September 2021) using frequency distribution and presented in tabular form. The determinant variables were age, parity, reasons for fertility, resistance to use, knowledge, reasons for using FP tools, FP information media, and sources of FP information. Ethical Clearance has been obtained from the Ethics Committee of STIKes Hang Tuah Pekanbaru with the number: 328/KEPK/STIKes-HTP/VII/2021.



### 3. Result and Discussion

#### 3.1. Characteristics of Age and Parity

The general description of the number of unmet need for FP showed that women with marital status do not want to have FP in the future (51%), and want to have FP in the future (49%). It can be seen in Table 1 below.

**Table 1**

**Characteristics of Respondents Based on Age and Parity Unmet Need FP in Indonesia 2019**

Characteristics	Desire to use FP in the future			Number of married women who do not use FG tools/methods
	Want to use FP	Don't want to use FP	Amount (%)	
Age				
15-29	73.5	26.5	100	5.140
30-49	39.9	60.1	100	13.945
Number of parity				
0	56.9	43.1	100	3.095
1	57.8	42.2	100	6.312
2	46.1	53.9	100	5.396
3	37.1	62.9	100	2.541
4	31.2	68.8	100	1.026
5	26.3	73.7	100	414
6+	26.4	73.6	100	301
<b>Total</b>	<b>49.0</b>	<b>51.0</b>	<b>100</b>	<b>19.085</b>

Note: PPAS-Family 2019 Data

Based on the analysis of the 2019 PPAS data, the age of the respondents was divided into two groups, namely the age of 15-29 years and 30-49 years. The higher the respondent's age the tendency to not want to use FP was also higher. Only 26.5% of 15-29 years old did not want to use FP in the future. Meanwhile, the age of 30-49 years was 60.1%. The results of another study showed that the older age group (35-49 years) was more likely to experience the unmet need for FP [20].

There was a decrease in the need for FP for birth spacing after reaching the age of 30 years. Fertile Age Couple (FAC/PUS) considered that the occurrence of unmet need in this study mostly occurred at the young reproductive age <20 years and the old reproductive age >35 years. There are concerns about the side effects of FP when they are no longer productive. The older a person is, the smaller or lower the risk of a person's ability to get pregnant. The age of women is negatively correlated with the incidence of unmet need for FP, which means that with increasing age, the need for unmet need for FP also decreases [21].

At the age of >35 years is a period of cessation of a woman's reproduction but at that age, pregnancy can still occur. female reproductive age ranges from 15-49 years. Another study explained the same thing, there was a significant relationship between age and the incidence of unmet need for FP with a p-value of <0.05. [22-24]. According to the three researchers, age is closely related to the use of FP, because the higher one's age, the higher one's need for family planning.

There is an increasing trend of women with parity or children >5 people wanting to not use FP. The pattern of contraceptive use differs between women with high parity and low parity. The more the number of children still alive, the will increase the use of contraception. Women who have one child, some couples of childbearing age want to delay pregnancy, space, or terminate the pregnancy but do not use contraception for reasons of fear of side effects when using contraception and if using contraception are afraid that infertility [25-28]. There is a need for counseling about the unmet need for FP, and it has an impact on increasing public knowledge about the unmet need for FP [29].

Differences in reasons for FAW to use FP are common given that each research location has different characteristics, culture, socio-economics. Therefore, it is necessary to study and conduct in-depth studies on this parity factor because each region in Riau in particular and Indonesia generally has different socio-cultural characteristics. External factors and the surrounding environment can also influence the mother's attitude in determining the choice of family plan<sup>5</sup>g. There is a tendency for women with parity numbers or children > 5 people, the desire to unmet need for family planning is also increasing. The pattern of contraceptive use differs between women with high parity and low parity. The more the number of children still alive, the more the use of contraception will increase. Women who have one child want to delay pregnancy, space, or end pregnancies but do not use contraception for reasons of fear of side effects when using contraception<sup>11</sup>d if using contraception fear of infertility [25-28]. There is a need for counseling<sup>11</sup> about the unmet need for family planning and its impact so that public knowledge about the unmet need for family planning increases [29].

The difference in reasons for women of childbearing age to use family planning is a natural thing considering that each research location has different characteristics, culture, socio-economics. For this reason, it is necessary to study and conduct in-depth studies on this parity factor because each region generally has different socio-cultural characteristics. External factors and the surrounding environment can also influence the mother's attitude in making choices for family planning.

### 3.2 Determinant Factors<sup>6</sup> Unmet Need for Family Planning (FP)

Knowing the reasons why women do not want to use FP in the future<sup>51</sup> important as an input for program intervention purposes. There are 6 groups of reasons why women do not want to use FP tools/methods in the future, including fertility, resistance to using contraception, lack of knowledge about FP, reasons related to FP<sup>22</sup>ls/methods, other reasons, and not knowing. The distribution of the causal determinant data can be seen in Table 2 below.

Table 2. Percentage of Respondents Unmet Need FP tools/methods in 2019

Reason	Age		Amount
	15-29	30-49	
<b>Reason for Fertility</b>			
Rarely have sex/distance husband	5,5	94,5	534
Menopause/hysterectomy	0,2	99,8	895
Not/less fertile	0,5	94,5	420
No period since last delivery	12,6	87,4	146
Breastfeeding	27,4	72,6	254
Husband has gone for a few days	10,2	89,8	284
<b>Resistant to Wear</b>			
Surrendered to God/fatalistic	7,6	92,4	247

Respondents disagree	2,7	97,3	65
Husband/spouse disagree	11,2	97,3	220
Other families disagree	14,0	86,0	46
Religious prohibition	(12,1)	(87,9)	31
<b>Lack of Knowledge</b>			
Do not know FP tools/methods	*	*	6
Do not know where the FP service is	*	*	2
<b>Reasons for FP Tools/Methods</b>			
Fear of side effects	6,5	93,5	1,029
Health problems	2,7	97,3	958
Lack of access/too far	(13,5)	(86,5)	16
Too expensive	(6,5)	(93,5)	51
The desired FP tool/method is not available	*	*	5
FP tools/methods are not available at all	*	*	1
Uncomfortable	3,9	96,1	609
<b>Other</b>	3,7	90,9	946
<b>Do not know</b>	9,1	95	107
<b>Total</b>	10,5	93,6	7,701

Note:

( ) = mark in brackets based on 25-49 unweighted cases

\* = asterisks indicate the numbers based on less than 25 unweighted cases

PPAS-Family Data, 2019

The reasons for fertility on the incidence of unmet need for FP are divided into six factors including rare sex/distance husband, menopause/hysterectomy, not/less fertile, no menstruation since last delivery, breastfeeding, and husband being away for several days. The reasons for this fertility were 2,533 people (32.89%) out of a total sample of 7,701 people. The psychological aspect is the strongest reason for unmet need behavior. Weak motivation in regulating fertility and lack of intention to use modern contraception are the determining factors for unmet need behavior [30]. In this study, most of the respondents had weak motivation in using modern contraception, and most of them were aware of the side effects of contraception, both experienced by themselves and the experiences of those closest to them. Unmet need is closely related to weak motivation to regulate fertility. The perceived benefits of preventing the birth of the next child are few or the chances of getting pregnant are small [31].

Perceptions of fertility become the initial perception that forms the overall perception of contraception and which motivates a person to behave in unmet need. Some women thought that the methods they were doing now were effective in preventing pregnancy. Natural contraceptive methods are one of the strategies to prevent pregnancy so they thought they no longer need modern contraception. The reasons against using family planning on the incidence of unmet need were divided into five factors including Surrendered to God/fatalistic, Respondents disagree, Husband/spouse disagree, Other families disagree, religious prohibitions. There were 609 people (7.9%) of the total sample of 7,701 people against using this FP.

Research in Cameroon said that husbands' consent to contraception and couples' discussion about FP were the two main factors that must be considered when planning interventions to



reduce unmet need for FP. FP activities with couples-focused can be useful in reducing the level of unmet need for FP in Cameroon. [32]. Another study in rural Burkina Faso in Kenya and Ethiopia said the same thing that only couples consented to contraception and discussion about FP was significantly associated with unmet need for family planning [33-36].

### 3.3 Knowledge of Modern Contraception

There are eight modern FP devices declared by the NPFPP/BKKBN, including Vasectomy, namely the Male Operation Method (MOM/MOP), Tubectomy, namely the Female Operation Method (MOF/MOW), Implants, Intrauterine Device (IUD), injections, pills, condoms, lactational amenorrhea. Percentage of knowledge of Fertile Age Couple (FAC) about eight modern contraceptives in Iau in 2019 with a sample size of 997 FAC and 1,248 Fertile Age Women (FAW/WUS) is seen in table 3.

**Table 3.** Distribution of Respondents' Knowledge about Modern Contraception

Knowledge	FAC (n=997)		FAW (n=1,248)	
	Yes	No	Yes	No
Knowing one modern FP device	99,4	0,6	98,6	1,4
Knowing two modern FP device	99,3	0,7	98,1	1,9
Knowing three modern FP device	96,6	3,4	94,1	5,9
Knowing four modern FP device	93,8	6,3	87,5	12,5
Knowing five modern FP device	83,9	16,1	76,3	23,7
Knowing six modern FP device	65,8	34,2	56,1	43,9
Knowing seven modern FP device	40,4	59,6	30,3	69,7
Knowing eight modern FP device	15,5	84,5	11,5	88,5

Note: n=sample. FAC= Fertile Age Couple. FAW= Fertile Age Woman

Based on Table 3, there are 99.4% of FAC know only one modern FP device, and only 15.5% know eight modern FP devices. It means that FAC knowledge about modern FP devices is still very low. The relationship between knowledge and unmet need for FP occurs because knowledge is the initial stage of the process of forming a behavior which consists of knowledge, persuasion, decision, and confirmation. Having good knowledge about FP will determine the formation of positive attitudes, adopting, and continuing family planning behavior [37].

Health education about knowledge of the benefits of using contraceptives is an important factor to reduce the incidence of unmet need for FP [33]. Another study on FP knowledge in Kenya and Ethiopia explained that knowledge about FP was associated with the incidence of unmet need for FP with p-value = 0.001 and had a significant effect on the incidence of unmet need for FP [38] [39].

### 3.4 FP Information through Media

Sources of information through mass media are tools used in delivering messages from the sources to the recipients by using communication tools. FP information is collected through radio, television, newspapers, magazines, leaflets, brochures, flipcharts, posters, banners, billboards, exhibitions, the internet, murals/wall paintings, graffiti. The data of married women who heard FP information through the mass media were 93.2% and 62.5% outside the media with 936 respondents. The percentage of married women aged 15-49 who know information about FP from the television media was 91.9%, while the least FP information was obtained through murals/wall paintings, which was 0.9%.



Another study explained that most respondents received FP information through television (58.2%), and there was an effect of information on FP perceptions and participation [40]. Most of the respondents received more information on FP through television because television is a media that provides a variety of entertainment by displaying audio and visuals so that it is more attractive. A study in Cameroon of 2,571 women found that the delivery of FP information and messages through the mass media could increase contraceptive use from 24% to 80%. There were 52% of them obtained exposure to contraceptive messages and information from the media as much as 4 to 6 times [41].

In addition, FP information can also be obtained in the form of FP campaigns through the mass media. This is supported by a study of 422 women in Tanzania on FP information campaigns through mass media which succeeded in increasing contraceptive use by 50%, FP discussions by 40%. The frequency of delivering FP information 2 to 3 times a day with the use of media in social activities and health promotion has a direct influence on changes in individual behavior in general. This is also the case in the United States, where the media can influence individuals to take responsibility for cultural values.

There are two main targets of communication activities that target behavior change. The first target is education to create, maintain, know, and understand health issues. This education is prioritized for cognitive processes. Television advertisements and pamphlets are appropriate media for education. The second target is motivation to bring about changes in attitudes and behavior, and concrete actions from individuals and groups. Motivation consists of cognitive and emotional processes [42]. The main priority of contraceptive promotion activities is the proper application of management information systems. The implementation of information system management is better if it is adjusted to the needs of FP participants [43].

### **3.5 Sources of Information from Health Facilities**

The majority of FP information was obtained from health workers such as midwives or nurses with a total of 77.5%, while only 12.9% was obtained from FP counselors. In addition, the majority of FP information received through non-health workers was obtained from friends, neighbors, relatives with a total of 70.7%. Furthermore, there were still 1.4% who did not receive information from health and non-health workers.

Several studies related to providing FP information through health workers of FP counselors correlated with the incidence of unmet need for FP. A study in East Java, Indonesia, said that information on FP Field Counselors who visited married women had a significant value of p-value of 0.048. This is the same as the research in Bukit Tinggi which stated that there was a relationship between information on FP Field Counselor and the incidence of unmet need for FP with a p-value of 0.001. [44]

One thing that must be considered by health services to provide services is the competence of health workers. The competence of health workers can affect health information. Information about FP can increase people's knowledge about tools, and increase acceptance of effective contraceptive methods with low risk. Efforts to develop HR strategies, especially for Field Counselors, can be carried out through managerial, technical, and sociocultural training. The training activities are carried out using classical methods (face-to-face) and non-classical methods (e-learning). Training for FP Field Counselors can be done through e-learning based on efficiency. This is aimed at obtaining competency development without depending on conventional training activities with face-to-face methods.

E-learning is a learning package and packaged in an attractive and easy-to-read way. This program is equipped with software teaching tools (learning aids), assessment tools (evaluation aids), simulation tools (simulation aids), and administration tools (administrative/learning

management/LMS tools). In addition, a persuasive and personal approach is also needed between Family Planning Field Officer (FPFO) and the community. This can be done by empowering the participation of local community leaders.

### 3.6 Unmet Need FP Strategy

#### 3.6.1 Health Management Approach

Strategic steps to reduce the incidence of unmet need for FP in the community is not an easy thing. It is necessary to have a systematic and continuous strategy with a measurable management approach. Here are some steps that must be done; 1). Assessment to identify the number of Fertile Age Couple (FAC) unmet need for FP, demographic characteristics, and reasons for not using contraceptive tools/methods, 2) Mapping steps, cases mapping per region, 3) Planning, service planning process: 4) Action, service delivery based on planning, 5) Monitoring and evaluation steps, monitoring process, and activity evaluation. The description of this health management approach can be seen in Figure 1.



Figure 1. Health Management Approach Reduce Unmet Need FP

Based on Figure 1, the initial process begins with an assessment of the identification of the number of FAC unmet need for FP, based on characteristics, demographics, socio-economics, and other reasons for not using FP. Furthermore, case mapping was carried out for each region, because each individual had different reasons. Then, the priority of the dominant problem is done. After that, an activity plan is prepared as a solution to solving the case. After the planning is complete, a reliable team is prepared to take action. In addition, the availability of competent human resources, adequate facilities, supported by media or creativity-based Information Technology (IT) is a great combination if well prepared. Every activity is always monitored and evaluated so that any weaknesses can be anticipated and alternative solutions are provided.

#### 3.6.2 Fishbone Analysis

Fishbone is one of the methods or tools that serve to improve quality. The fishbone diagram is also known as a cause-and-effect diagram. This fishbone analysis includes, why it happened,



how we can make it happen. These two questions are very important in problem-solving. The following is Figure 2 Fishbone diagram of the one of determinants of the unmet need for FP.

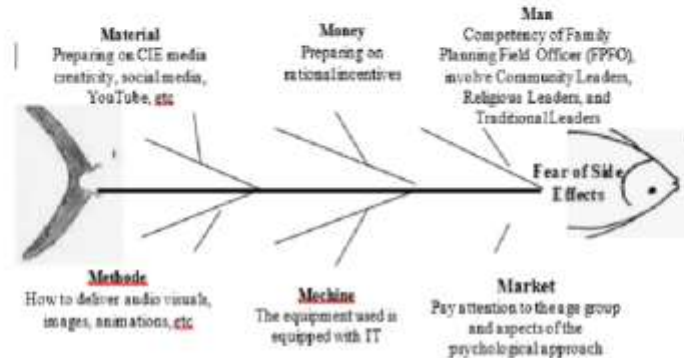


Figure 2. Fishbone analysis Unmet Need FP "Fear of side Effect"

Based on Figure 2, the fishbone analysis can be seen from the six elements of management, namely: man, money, method, material, machine, and market. For example, the chosen problem is the fear of side effects of FP. To provide alternative solutions, it was developed from the HR element of FPFO competence by involving Community Leaders, Religious Leaders, and Traditional Leaders in the delivery process without eliminating the health education side. The provision of rational incentives is also one of the sustainability of this program. The prepared material should be equipped with creativity and not monotonous. CIE materials can be disseminated through social media, YouTube, and others following the trend towards the affordability of access to FP services. The IT element is strived to be attached so that the digital footprint of the media used can be monitored continuously. The element of a psychological approach to FAW personnel is also one of the measures of the success of this program.

#### 4. Conclusion

Based on data from the Family-Program Performance and Accountability Survey (PPAS) in 2019, the determinant factors causing unmet need for FP include: age, parity, fertility, resistance to use, lack of knowledge, FP information media through television, and FP information sources through midwives/nurses. The most dominant factor is the reason for the method of family planning. The strategy to reduce the number of unmet need for FP is in two ways, namely: 1) health management approach with five steps, including: assessment, mapping step, planning, action, and monitoring and evaluation step. 2) Fishbone analysis uses six elements of management, namely: man, money, material, machine, method, and market.

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