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Modern Contraceptive Use in District : Crossectional Study

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ABSTRACT

Trend contraceptive use in Indonesia is higher from 49,7% in 1997 and 61,9% in 2012, but it becomes 61,1% in 2015. But Modern contraceptive use is high in short-term contraception and skewed method mix in one method. The skewed method is influenced by the quality of the program. The aim of the study describe modern contraceptive use and quality of service family planning in the district. A cross-sectional study using PMA2020 survey data conducted from May to October 2015 in Indonesia. The sample was woman sexual active respondents and health care has chosen using two stages stratified random sampling. The result of the study showed percentage of modern contraceptive use was the skewed method (93%). The skewed method was in injection contraceptive (62,4%). Service environment index in district is 75% inadequate. Service environment index family planning in district showed inadequate (75%), availability contraceptive methods in district is less than 5 methods (69%). The result described inadequate service environment index showed skewed contraceptive used (94,7%). District that has not adequate service environment is higher skewed method than adequate service environment. Improve service environment quality family can help women to choose suitable contraceptive.

INTRODUCTION

Family planning is a part of reproductive health since ICPD in 1994 that purpose to help individual limit or spacing pregnancy used contraception (1). Contraceptive prevalence rate (CPR) is like 64% in the world, modern contraceptive prevalence rate (mCPR) as 57% and unmet need as 12% 2. Contraceptive use is skewed in some countries, is pill contraceptive (2). Trend contraceptive use in Indonesia is higher from 49,7% in 1997 and 61,9% in 2012, but it becomes 61,1% in 20153. The variates of contraceptive method offered by health service are 3 or more as 90,3%, and 5 or more as 60,9%3. However, the trend of contraceptive use is higher to one method, especially injectable method (3,4).

There is unmatched contraceptive use among woman that has been 30th years old, spacing pregnancy and limited pregnancy (4). They choose a short contraceptive method (pill and injectable) rather than the long-term contraception method. As we know that the long-term method is more effective than short-term method (5). There are many factors influenced the barrier of use contraceptive, one of them is health service quality. The quality framework consists six elements: choice of methods, information given to clients, technical competence of providers, provider-client interpersonal relations, mechanisms for encouraging continuity and follow up, and the appropriate constellation of services (infrastructure) (6).

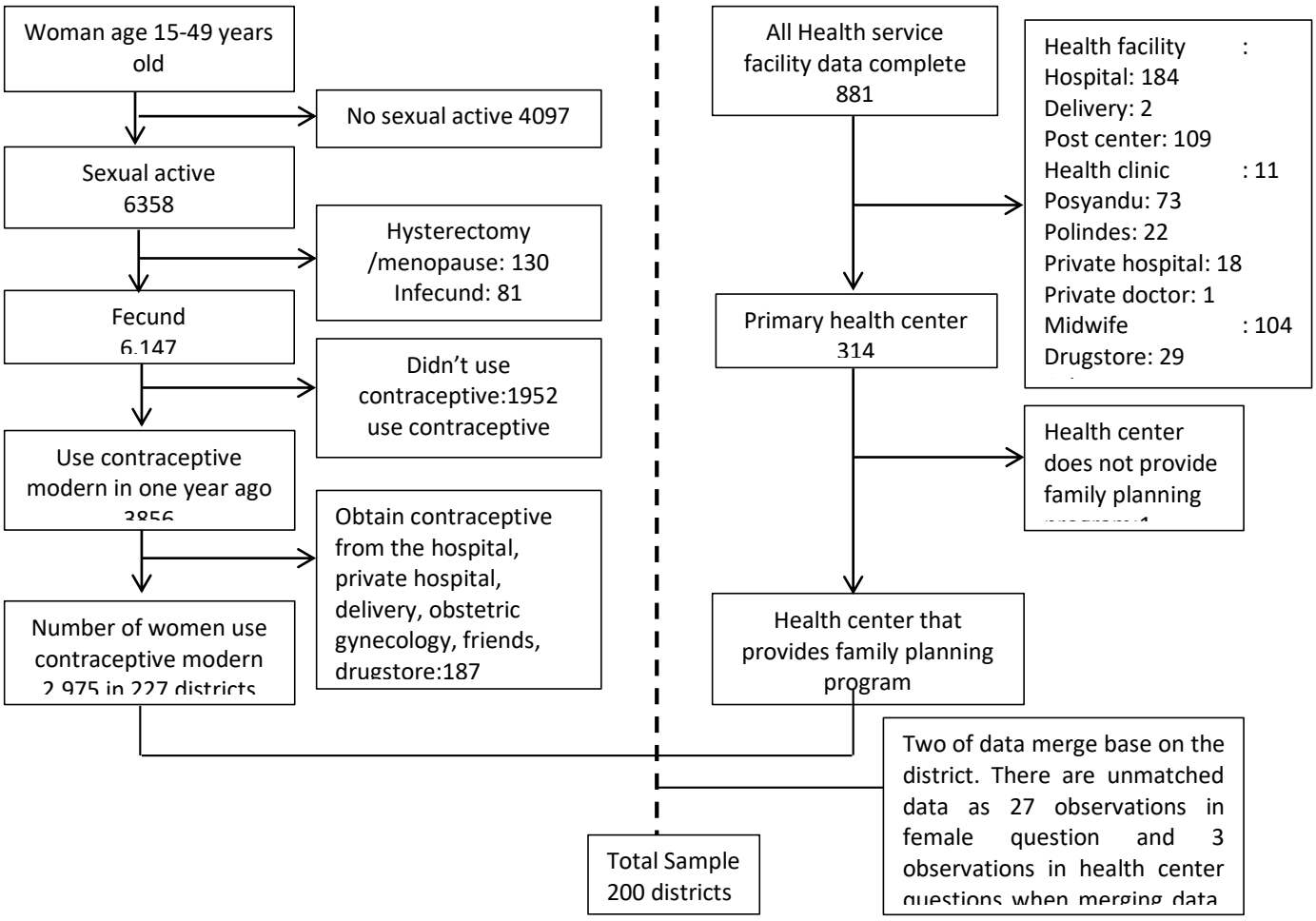
Infrastructure family planning quality influences the pattern contraceptive use that can see from the environment of service (7). There are four drives of service environment index: family planning counseling; infection control; pelvic examination; and management practice. Availability of the index like a counseling room will secure the client privacy, and visual aid will help provider giving complete information to client (8,9,10). Based on the explanation, researches interest to analyze that how the association environment of service with contraceptive modern use in the district (Analyze PMA 2020).

METHODOLOGY

A cross-sectional study using PMA 2020 survey data conducted from May to October 2015 in Indonesia. The data for our analysis used the first round of data collection for PMA2020 in Indonesia used a multi-stage cluster design with the province at the first and census blocks at the second stage. The number of enumeration areas (EAs) determined to provide a national estimate of modern contraceptive prevalence with 1.5% margin of error and 2.0% for urban-rural strata, was 312 census blocks. The Indonesian Central Bureau of Statistics (BPS) drew a sample of 372 EAs from its master sampling frame to accommodate an oversample for one province (South Sulawesi with 60 EAs) and one district (Makassar, with 37 EAs). In each EA, the survey team listed and mapped households, public and private health facilities and randomly selected 35 households and up to 3 private service delivery points. Each Resident Enumerator contacted 35 households for an interview, enumerated all household occupants, and interviewed all eligible females age 15 to 49 in each household. Field Supervisors interviewed three levels of public health facilities assigned to provide services to residents of each of the selected EAs residents.

The outcome variable for this analysis is women's current use of any modern contraceptive method. Thus, all data on contraceptive use in the report refer to modern contraceptive methods. Sterilization method excluded because the woman may obtain sterilization from a hospital, and midwife. The independent variable is a service environment, and other variables controlled are an availability of contraceptive methods, and technical competence (midwife). The result of data visualization is a table, graphics. Data analysis is univariate, bivariate and multivariate used binomial regression test with p-value 0.05, the prevalence ratio (PR), and 95% confidence interval (CI).

This research uses female questions and health center questions that collected by an interviewer. The eligible data for analysis is woman active sexual in one year ago, the woman uses the modern contraceptive method and health center that offers family planning program. Then, the data will merge based on district. We use the assumption that woman will get contraceptive service from the closed health center. Sampling shows in chart 3.



The analysis aims to determine the relationship between independent variables with dependent variables and external variables with the dependent variable. The statistical test used is the chi-square test. Calculate the strength of the relationship with the Prevalence ratio (PR), 95% confidence interval (CI) and the significance level of p <0.05. And multivariable analysis is done to see the relationship between independent variables and external variables together with the dependent variable. The statistical test used is a binomial regression to calculate the strength of the relationship by looking at the Prevalence Ratio (PR) and 95% confidence interval (CI).

RESULTS

Descriptive Analyze

Table 1. Characteristics of women using modern contraception and family planning services in some districts

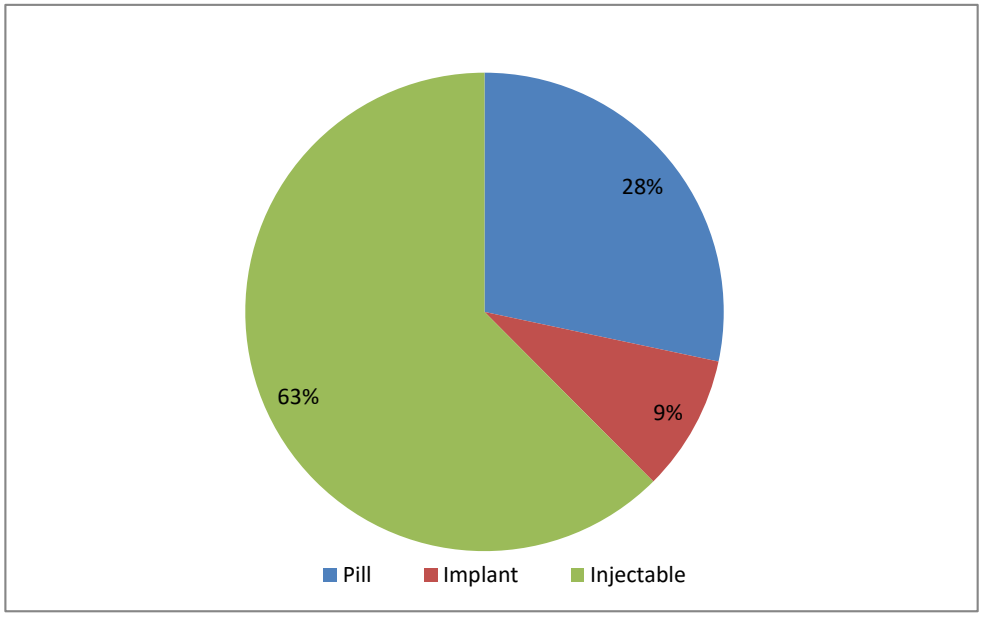
Variables	n	%
Total	200	100
Contraceptive use in the district		
Skew	186	93
Not skew	14	7
Service environment index in district		
Inadequate	150	75
Adequate	50	25
Availability contraceptive methods in district		
Unavailable ≥ 5 methods	62	31
Available ≥ 5 methods	138	69
Number of a midwife in district		
Not up to standard	82	41
Up to standard	118	59
Region		
Out of Java-Bali	128	64
On Java-Bali	72	36
The district that women have 3 or more children as ≥25%		
Yes	89	44.5
No	111	55.5
The district that women have low knowledge as ≥16%		
Yes	100	50
No	100	50
The district that women never visited by health worker as ≥100%		
Yes	115	57.5
No	85	42.5
The district that women low education as ≥ 33%		
Yes	99	49.5
No	101	50.5
District that women poor socioeconomics as ≥28%		
Yes	108	54
No	92	46

Source: PMA 2020 2015 Data/Indonesia-RI
Detail: Weighting Data

Table 1 shows the characteristics of women in 15-49 years old that used modern contraceptive method in districts area. Prevalence contraceptive use is skew to one current method contraceptive as 93% in some district, and only 7% district that not skewed. The low quality of family planning is higher in some district than good quality. Family planning has availabilities ≥5 contraceptive methods as 70% in some district. Family planning has midwife up to standard is higher than not up to standard. Distribution of district that analyzes is much more out of Jawa-Bali region than in Jawa-Bali region.

Percentage of the district that proportion women have three or more children as ≥ 25 % is higher than the percentage of the district that proportion women have three or more children as < 25 %. Percentage of the district that proportion women have low knowledge as ≥16% and < 16% is same. Percentage of the district that proportion women with low education as ≥ 33% is lower than the percentage of the district that proportion women with low education as >33%.

Percentage of the district that proportion women never visited by health worker as 100% is higher than the percentage of the district that proportion women never visited by health worker as < 100%. Percentage of the district that proportion women with low economic status as ≥ 28% is higher than the Percentage of the district that proportion women with loweconomic status as < 28%.



Picture 2. Percentage of women using contraceptive methods base on types offer insome districts

Inference Analyze

An inference analyzes do know how the association service environment index with contraceptive use, and other variables. The analysis also conducted between external variables such as the availability of contraceptive methods, availability of midwives, parity, knowledge, health worker visits, education, socioeconomic and regional skew using contraception. Then analyze the independent variable and dependent variable with considering control variables.

Table 2 shows the prevalence use of modern contraceptive methods in some district skewed bigger on inadequate service environment than adequate, with PR is 1,07 times. The influence of family planning services is not sufficient to increase the prevalence of contraceptive use skew after considering the effect of low knowledge level, poor socioeconomics, number of midwives, and parity to 1.10 times. Inadequate service environment family planning is an increase of skewed modern contraceptive use after controlling variables knowledge, socioeconomic, midwife, and parity, with PR is 1,10 times. Prevalence modern contraceptive use skewed lower in the district that number of the midwife is not up to standard than midwife up to standard. There is no difference skewed between health center that available ≥ 5 methods contraceptive and available < 5 methods. There is no difference of skewed based on region, with PR is 1,00 times.

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socioeconomic, midwife, and parity, with PR is 1,10 times. Prevalence modern contraceptive use skewed lower in the district that number of the midwife is not up to standard than midwife up to standard. There is no difference skewed between health center that available ≥ 5 methods contraceptive and available < 5 methods. There is no difference of skewed based on region, with PR is 1,00 times.

Prevalence women using modern contraceptives in some districts experienced greater skew in a district with a proportion of woman basic educated as ≥ 33% than in districts with a proportion of women basic educated as <33%, with PR is 1,04 times. The prevalence of women using modern contraceptives in some districts experienced a greater skew in districts with the proportion of women poor socioeconomic as ≥ 28% compared to districts with the proportion of women poor socioeconomic as <28%, PR is 1,08 times. However, the relationship between basic education and poor socioeconomic factors is not statistically significant.

Table 2.Analysis of service quality factors, individual and contextual with the use of modern contraceptives in some districts

Variables	Use contraceptive method modern					
	Skew		Tidak Skew		PR Unadjusted [95% CI]	PR Adjusted [95% CI]
	n	%	n	%		
Total	**186**	**100**	**14**	**100**		
Service environment index in district						
Inadequate	142	94.7	8	5.3	1.07 [0.94-1.21]	1.10 [0.96-1.25]
Adequate	44	88.0	6	12.0	1	1
Availability contraceptive methods in district						
Unavailable ≥ 5 methods	58	93.5	5	8.1	0.98 [0.88-1.09]	
Available < 5 methods	128	92.8	9	6.5	1	
Number of the midwife in district						
Not up to standard	73	89.0	10	12.2	0.91 [0.81-1.01]	0.89 [0.80-1.00]
Up to standard	113	95.8	4	3.4	1	1
Region						
Out of Java-Bali	119	93.0	9	7.0	1.00 [0.91-1.09]	
On Java-Bali	67	93.1	5	6.9	1	
The district that women have 3 or more children as ≥25%						
Yes	85	95.5	4	4.5	1.04 [0.95-1.14]	1.05 [0.96-1.14]
No	101	91.0	10	9.0	1	1
The district that women have low knowledge as ≥16%						
Yes	98	98.0	2	2.0	1.09 [0.99-1.20]	1.10 [1.01-1.20]*
No	88	88.0	12	12.0	1	1
The district that women never visited by health worker as ≥100%						
Yes	104	90.4	11	9.6	0.93 [0.86-1.02]	
No	82	96.5	3	3.5	1	
The district that women low education as ≥ 33%						
Yes	94	94.9	5	5.1	1.04 [0.95-1.04]	1.00 [0.91-1.09]
No	92	91.1	9	8.9	1	1
District that women poor socioeconomics as ≥28%						
Yes	104	96.3	4	3.7	1.08 [0.98-1.20]	1.09 [0.98-1.20]

No	82	89.1	10	10.9	1	1

Source: PMA 2020 Data 2015/Indonesia-RI

Detail: Weighting Data, binomial regression, CI: Confident Interval, PR: Prevalence Ratio, , * p<0.05

DISCUSSION

This study discusses the inequality (skew) of contraceptive use in Indonesia using the first 2020 PMA data round. This study shows that contraceptive use in some districts still tends to one type of contraception, is skew to injection. Sumini research results (2016) also stated contraceptive use in Indonesia is high in injection (11), and Bertrand et al. (2014) found that Indonesia is one of 5 countries using contraceptives the skew to injectable contraceptive methods (12).

The quality of family planning services may influence contraceptive use (Arend-kuenning). An adequate facility of family planning services can help the client in choosing the contraceptive method appropriate to that required by the client8. The study shows that the percentage of inadequate service environment FP is high. Service environment facility can see from the availability of auditory and visual counseling room, guidelines method contraceptive. Family planning that has adequate in-service environment will facilitate clients and health provider to interact. If a health provider are able to convince clients that the family planning service environment has a private counseling room then may result in the client being able to choose appropriate contraceptives8. Whereas, if auditory and visual counseling room facilities are not available in the family planning examination room, the patient is uncomfortable during the examination, because other patients can see and hear the conversation with health provider.

The results of this study found that family planning services that already provide contraceptive methods ≥ 5 types are high, but the use of methods still skews to one method. Whereas the more types of contraceptives provided the chances of choosing the appropriate contraceptives are greater (14). Although family planning has provided many type contraceptive, health provider does not give complete information or just explain one method. Results research Mohammad-Alizadeh et al (2007) mentioned the provision of complete information about more pills given than other methods (15).

The availability of information on how to use pill contraceptives explained while explaining how to use condoms is very rare because counselors feel embarrassed and taboo for explains the use of condoms. Research in two areas of southern Iran states that provides various types of contraception and provides complete information is important to improve the pattern of contraceptive use in a region (16). People exposed to family planning information, it will significantly outcome to the selection of modern contraception. The more information about family planning acquired will increase the use of contraceptive pills, IUDs, implants, and sterilization, but decrease the use of injection (17).

The availability of midwives is up to standard but skew of contraceptive use is high, this may be due to unskilled midwives. Whereas the presence of trained personnel in services closest to women is a strong predictor of using contraception10. In addition, the presence of midwives influences the distribution of methods hormonal contraceptives in a region, where the use of injectable contraception is higher in the area of midwives than with no midwives (18). Woman with higher levels of education tends to be more use modern contraception compared to women with low education10. Women with low education are more likely to use hormonal contraceptives short term compared to women with higher education (19). The level of community education is able to influence decision-making behavior related to the use of contraception by increasing the right of women in choosing (20). The level of education affects the level of knowledge, related to a person's ability to receive information. The results of Dewi and Notobroto (2015) suggest that low knowledge levels affect a person in the choice of contraceptive methods (21).

The results of Nsubuga et al. (2016) shows generally knowledge of contraceptive methods is good, but the pattern of use is not yet optimal (22). The most widely known and most widely used method is pill and condoms. Although knowledge of contraception is good, the most common use of contraception is the pill. The choice of contraception is not only because of the knowledge but also because the respondent follows the contraceptive used by the closest friend or brother (23). Knowledge of family planning is closely related to the method to be

used because with good knowledge will change perspective in determining the most appropriate and effective method to use. Women tend to use short-term contraception due to lack of information about contraception.

The socioeconomics is a factor influenced contraceptive use. Respondents with the highest socioeconomic status (very rich) had a higher chance of limiting birth than lower (poor) economies. The use of IUD contraceptive is high in rich woman (24). The importance of the socio-economic factors of the community provides support to develop policies that indirectly affect community norms and behavior regarding family planning and the elimination of socioeconomic inequality also affect the use of family planning services. This study found that the number of children owned was a risk factor in the use of contraception but the effect was very small and did not significant statistically. Research Pustuti and Wilopo, 2007 states women who have given birth 3 or 4 times a greater chance to use IUD than less than. Research Sumandari, et al. (2010) contraceptive use related to the number of live children it has, where women with more than two children will encourage it to limit or exclude births (25). Women who have 5 children or even more have 3 times more likely to use contraceptives than women with one child or no children.

CONCLUSION

The conclusions of this research: The first, Use of modern contraceptives in family planning services at the district level skewed to an injectable contraceptive method. Second, Inadequate quality of family planning services in districts does not necessarily determine a skewed district for certain contraceptives. Third, Woman in the district as ≥ 16% have low knowledge about the contraceptive method in the district is significant statistically after controlling other variables. Sufficient family planning services in some districts are very low, this can be because the services of maternal-child health service and family planning program are still integrated into some areas. The procurement of a special program room for family planning services that has audio and visual counseling facilities, so interactions between clients and health provider cannot be seen and heard by others during counseling. So the client feels safe and secured.

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