International Journal of Public Health Science (IJPHS)
Vol. 13, No. 1, March 2024, pp. 133~140
ISSN: 2252-8806, DOI: 10.11591/ijphs.v13i1.23055

Contraception used among women of childbearing age during the pandemic COVID-19

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Article Info

Article history:

Received Feb 9, 2023
Revised Jul 13, 2023
Accepted Jul 22, 2023

Keywords:

Childbearing age
Contraception use
COVID-19
Family planning
Health service access
Information acces

ABSTRACT

The low coverage of family planning acceptors during the COVID-19 pandemic became one concern of public health. This study aimed to analyze the factors related to family planning participation among women of childbearing age during the COVID-19 pandemic. This study used a quantitative research design with a cross-sectional approach. The sample size was about 373 respondents who were taken using quota sampling among women of childbearing age in Mojolaban, Sukoharjo, Indonesia. Data collection was carried out using an online structured questionnaire. The data analysis used logistic regression. There was a significant relationship between family planning status and husband's support (p-value <0.034), access to information (p-value <0.0001), and access to health services (p-value <0.0001). Multivariable analysis showed that health service access affected women's participation in family planning (OR 4.135, 95%CI 2.276-7.511). The probability of women participating using family planning was four times higher if they categorized them as having high/low health service access. Access to information is the most important factor that women of childbearing age want to use contraception during the COVID-19 pandemic. In addition, health workers need to continue to educate couples of childbearing ages about the side effects of each type of contraception so they feel safe in their use.

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1. INTRODUCTION

The prevalence of unmet contraceptive needs and unwanted pregnancies is relatively high, with significant regional disparities [1]. Decreased maternal mortality by 37.5–43.1% from 1970 to 2017 due to contraceptive use. There is a projected contraceptive prevalence rate (CPR) in 2030 of 75% and unmet family planning needs of 5% will result in a reduction in maternal mortality of 28.4–29.4% [2]. The number of productive age couples based on Regency or City in Solo Raya in 2020 recorded 1,062,091 people, and the most productive age couples were in Klaten Regency, with 195,133 people. Meanwhile, the lowest number was in Surakarta, with 61,705 people. The highest coverage of active family planning participants was in Wonogiri Regency (77%), and the lowest range of active family planning participants was in Sukoharjo Regency (68%) [3].

According to the National Population and Family Planning for Central Java Province in 2020, the number of productive age couple in Sukoharjo Regency in 2020 was 142,918 people. This number has

increased compared to 2019, namely 140,865 people. However, the number of active family planning (*KB*) participants in Sukoharjo Regency decreased in 2020 compared to 2019 from 237,432 participants to 97,260 participants (68%). With details of KB acceptor users in 2020, namely, intra uterine device (IUD) acceptor users 14,216 (9.95%), female surgery methods/*metode operasi wanita* (MOW) 6,691 (4.7%), male surgery method/*metode operasi pria* (MOP 307 (0.2%), condoms 2,432 (1.7%), implants 9,761 (6.8%), injections 52,518 (36.75%), pills 11,335 (7.93%) [3]. The results of a systematic review show that women's social status and responsibilities are recognized at the individual level, unique patriarchal culture at the partner level, as well as myths and misconceptions, cultural differences, and religious beliefs at the community level, are the main challenges in the use of contraceptive methods [4]. The results of another systematic review indicated different factors influencing contraceptive use. These factors include the attractiveness of pregnancy, knowledge, beliefs, and women's perceptions of side effects and health risks. Meanwhile, male partners, peers' views, experiences, and family expectations also strongly influence contraceptive use. In addition, factors that influence health services include the availability, accessibility, confidentiality, and cost of health services and the attitudes, behavior, and skills of health practitioners [5].

The highest coverage of family planning acceptors in 2020, Sukoharjo Regency, was at the Weru Health Center, 8,536 (93%), while the lowest range for family planning acceptors was in 2020, Sukoharjo Regency, namely at the Mojolaban Health Center, 10,423 (66%). The low coverage of family planning acceptors during the COVID-19 pandemic can be particularly concerning to the public and the government. Therefore, there is a need for a more in-depth study of family planning participation when facing a pandemic. Unfortunately, this analysis of low coverage at the Mojolaban Health Center, Sukoharjo Regency, has yet to be studied. Therefore, researchers want to analyze the relationship between internal factors (age, education, occupation, income, family planning experience, access to information) and external factors (accessibility to family planning services, husband support, support from health workers) with the participation of women of childbearing age in the -KB during the COVID-19 pandemic in Mojolaban District, Sukoharjo Regency.

2. LITERATURE REVIEW

The maternal mortality rate (MMR) decline is still a global health issue. Although significant progress has been made in the last 15 years, MMR is still high, especially in low middle-income countries (LMICs) [6]. The maternal mortality rate is still very high. Globally, it is estimated that around 810 women die every day from this complication related to pregnancy or childbirth. In 2017, 295,000 women died during and after pregnancy and childbirth [7]. All countries are urged to contribute to Sustainable Development Goal 3.1 to reduce the global maternal mortality ratio (MMR) to less than 70 per 100,000 live births by 2030, and identifying causes of maternal death is very important [8]. As a member country in the program, Indonesia still has to work hard because the proportion of maternal deaths is approximately 305 deaths per 100 thousand live births [9]. An increase in the prevalence of community contraception will reduce maternal mortality after deducting other risk and protective factors during 2010–2015 [10]. Other facts also show that perceptions related to pregnancy, childbirth, and maternal mortality and perceptions related to family planning are part of the obstacles in reducing maternal mortality [11].

Family planning has been proven globally to reduce maternal mortality by reducing high- and total-risk pregnancies. Although efforts to reduce the high maternal mortality rate in Indonesia still focus on addressing health risks among pregnant women. However, the data proves that the substantial reduction in maternal mortality between 1970 and 2017 can be attributed to contraceptive use and possibly a further contribution to 2030 [2]. Therefore, this family planning program is still a strategy in the 2020-2024 National Medium-Term Development Plan (RPJMN) for the Health Sector [12]. However, this plan took much work to achieve during the COVID-19 pandemic in early 2020. This condition can be seen in the decrease in the use of contraceptives by 47% during the COVID-19 pandemic and the reduction in family planning services by 1,179,467 family planning services during January-April 2020 [13].

The COVID-19 pandemic has significantly impacted family planning services in several regions. Almost all contraceptives have decreased in private midwifery practice in Yogyakarta. Family planning services declined by 13.8% in February-April 2020 [14]. The existence of a work-from-home policy also has an impact on increasing sexual relations among couples of childbearing ages. The study also showed that only 22.7% of participants reported using contraception, and 52.9% still wanted to have children [15]. The experience of visiting health facilities during a pandemic and using contraception (modern or traditional) influences the behaviour of couples of childbearing age in accessing family planning counselling services [16]. Education and accessibility are determining factors in the use of contraception which can empower men and women so they can change their attitudes and practices in supporting family planning [17]. In addition, understanding women's groups about postnatal family planning and improving the quality of family planning still needs to improve. When viewed by family planning service providers, the quality of their services still

needs to improve, the provision of information needs to be more accurate, and the lack of respect for women's choices is challenging [18].

3. RESEARCH METHOD

This cross-sectional study was conducted in Mojolaban District, Sukoharjo Regency, Indonesia, involving women of childbearing age. Locations were chosen based on data on the lowest coverage of family planning participants compared to other sub-districts. The number of women of childbearing age is 15,852 based on available population data. The sample size is determined using the Lemeshow formula, as follows:

$$n = \frac{N.\left(Z^2{}_{1-\propto/_2}\right).p(1-p)}{d^2(N-1)+\left(Z^2{}_{1-\propto/_2}\right).p(1-p)}$$

It calculated the minimal sample size that should be fulfilled in this study. It was about 374 respondents involved in this study. Women of childbearing age selected as respondents were married because of the measurement of husband support in this study. Respondents excluded from the study were those who had died, moved their residence outside the Mojolaban area, or divorced. Respondents were selected using a quota sampling technique based on the order from regions with a large population to sites with a small population. Structured questionnaires were used for quantitative data collection.

The dependent variable of this study was contraceptive use. The use of contraception in question is a respondent who uses a contraceptive 'device' or performs contraception and needs the assistance of a health worker. Meanwhile, the independent variables of this study are age, education level, number of children, employment, economy level, contraception use history, husband support, health worker support, information access, and health service access.

The questionnaire consists of questions about individual factors, external factors, and family planning participation which respondents should fill out. The validity and reliability of this instrument was held on women of childbearing age in the Sukoharjo Health Center area because they have the same characteristics. Test the validity of the instrument using content validity using the Product Moment technique. Data collection used an online questionnaire that is Google Form platform.

The questionnaire contains the following questions: i) Characteristics of the respondent (name, age, address, telephone number, education, occupation, number of children, income, place of residence); ii) Experience using contraception, which consists of ten questions with 'yes' and 'no' answer choices; iii) Husband's support consists of 19 questions with answer choices of 'strongly agree,' 'agree,' 'disagree,' 'disagree,' and 'strongly disagree'; iv) Support from health workers consists of 19 questions with the answer options 'strongly agree', 'agree', 'disagree', 'disagree', and 'strongly disagree'; v) Access to information about family planning consists of ten questions with 'yes' and 'no' answer options; vi) Accessibility to health services consists of seven questions with 'yes' and 'no' answer options; vii) Contraceptive use consists of eight questions with 'yes' and 'no' answer choices.

Data collection started in the area with the highest population of women of childbearing age, namely the Palur area. It ended in the Tegalmade area until the minimum number of samples was met. The total areas used as data collection sites are 15 regions. Based on the address data recorded at the primary health service, the enumerator visited the respondent directly at their residence. If the respondent cannot be met, then the enumerator will come to him again until we meet. Several respondents could be found when they visited primary health services or integrated health posts. This research was reviewed by the Health Research Ethics Commission, Faculty of Medicine, University of Muhammadiyah Surakarta, with Number 4248/B.1/KEPK-FKUMS/IV/2022.

Descriptive statistics as percentages for the categorical variables are shown for selected variables. The bivariate analysis examined the relationship between contraceptive use and chosen predictors. We used Chi-square tests to evaluate the relationship between the dependent variable (contraceptive use) and the key independent variables (age, education level, number of children, employment, economy level, contraception use history, husband support, health worker support, information access, and health service access). The p-value <0.05 was considered to be statistically significant. Multivariate analysis was used to determine the dominant factors that influence the use of contraceptives with logistic regression tests.

4. RESULTS AND DISCUSSION

The research was conducted in Mojolaban District, Sukoharjo Regency, involving 373 women of childbearing age as respondents. Most of the respondents who used contraception were aged ≤35 years (76.27%), had high school and university education (75.66%), and had children <1 child (78%). Furthermore, most of the respondents who used contraception were working (77.50%), had an income < regional minimum

wage (RMW) (78.07%), and had no history of family planning (76.92%). In addition, most of the respondents who use contraception have the support of their husbands (79.23%), have the support of health workers (76.17/%), have easy access to information (83.25%), and have easy access to health services (80.67%) as shown in Table 1.

The results of the statistical analysis showed that there was a significant relationship between family planning status and husband's support (p-value <0.034), access to information (p-value <0.0001), and access to health services (p-value <0.0001). Table 1 informs that among various factors, three factors affect women's participation in family planning, namely husband support, information access, and health service access. Most respondents continued using contraceptives during the COVID-19 pandemic (77.75%). Contraceptives used by some respondents were injections (46.90%). Meanwhile, more respondents did not use contraception who had interrupted intercourse compared to those who did calendar family planning. Respondents worried about being infected with COVID-19 when they had to carry out family planning services had the highest percentage compared to other obstacles. Of the 83 respondents who did not use contraception, 78.31% said they were afraid of the side effects of the contraception as presented in Table 2.

Multivariable analysis in Table 3 shows the dominant factor that affected women's participation in family planning was health service access OR value 4.135 (95%CI 2.276-7.511). The probability of women participating using family planning was four times higher if they were categorized as having high/low health service access. Husband support and information access were related to women's participation in family planning with OR 1.950 (95%CI 1.087-3.498) and 3.149 (95% CI 1.844-5.377), respectively.

Respondents who use contraception and natural contraception are still relatively high. This result differs from Prabowo *et al.* [19] findings regarding the low use of contraception (22.7%) of the total respondents involved because the participants still wanted to have children. Even though respondents had severe concerns about the transmission of the COVID-19 virus, the contraceptive that was most used was injectable contraception. A few responses stated that there were no contraceptive services [19]. This research finding contrasts the results of Pondawati and Ismarwati [20], scoping review study, which found that access to contraception was low. The primary health service in Mojolaban does limit some contraceptive services, especially long-term contraception, which is only provided at the mother's primary health service. Only a quarter of respondents did not use contraception, the biggest reason being fear of side effects, so they chose natural contraceptive methods [20]. Contraceptive services are urgently needed during the COVID-19 period, so women, health service providers, policymakers, and the public are encouraged to prioritize them [21].

Table 1. Respondent characteristic

Variable	Contraceptive use				Total		p-value
	Do not use		Use				
	n	(%)	n	(%)	N	%	
Age							
Early adulthood	37	(23.72)	119	(76.27)	156	100	0.808
Late adulthood	55	(25.34)	162	(74.66)	217	100	
Education level							
Elementary	27	(25.47)	79	(74.53)	106	100	0.894
High school	65	(24.34)	202	(75.66)	267	100	
Number of children							
<1	14	(17.07)	68	(82.93)	82	100	0.082
≥2	78	(26.81)	213	(73.19)	291	100	
Employment							
No	65	(25.69)	188	(74.31)	253	100	0.504
Yes	27	(22.50)	93	(77.50)	120	100	
Economy level							
Low	50	(21.93)	178	(78.07)	228	100	0.140
High	42	(28.97)	103	(71.03)	145	100	
Contraception used history							
No	27	(23.08)	90	(76.92)	117	100	0.698
Yes	65	(25.39)	191	(74.61)	256	100	
Husband support							
Low	49	(29.52)	117	(70.48)	166	100	0.034
High	43	(20.77)	164	(79.23)	207	100	
Health worker support							
Low	46	(25,56)	134	(74.44)	180	100	0.720
High	46	(23.83)	147	(76.17)	193	100	
Information access							
Low	59	(33.52)	117	(66.48)	176	100	<0.0001
High	33	(16.75)	164	(83.25)	197	100	
Health services access							
Low	34	(46.58)	39	(53.42)	73	100	<0.0001
High	58	(19.33)	242	(80.67)	300	100	

Table 2. Description of contraceptive use during the COVID-19 pandemic

Description	Frequency	Percentage (%)
Contraceptive use (N=373)		
No	83	22.25
Yes	290	77.75
Contraceptive use method (N=290)		
Condom	37	12.76
The oral contraceptive pill	30	10.34
Intrauterine device (IUD)	39	13.46
The contraceptive implant	30	10.34
The contraceptive injection	136	46.90
Permanent contraception	18	6.20
Natural contraception method (N=61)		
Coitus interruptus	37	60.65
Natural family planning	24	39.35
Perception of contraceptive barriers during COVID-19 (N=111)		
Worried about contracting covid	46	41.44
The risk of transmission when installing contraceptives in health services	21	18.92
No contraceptive services during covid	10	9.01
Territorial isolation	34	30.63
Reasons for not using contraception (N=83)		
Age factor	16	19.28
Fear of side effects	65	78.31
Other	2	2.41

Table 3. Multivariate analysis

Variable	First model				Last model				Rank
	OR	95% CI		p-value	OR	95% CI		p-value	
		Lower	Upper			Lower	Upper		
Age	1.060	0.597	1.882	0.843					
Education level	0.956	0.521	1.753	0.885					
Employment	1.501	0.820	2.748	0.188					
Number of children	0.461	0.223	0.956	0.037					
Economy level	0.574	0.318	1.036	0.065					
Contraception used history	0.765	0.434	1.348	0.354					
Husband support	1.950	1.087	3.498	0.025	1.950	1.087	3.498	0.025	III
Health worker support	0.744	0.413	1.340	0.324					
Information access	3.149	1.844	5.377	<0.0001	3.149	1.844	5.377	<0.0001	II
Health services access	4.135	2.276	7.511	<0.0001	4.135	2.276	7.511	<0.0001	I

This study shows that most women of childbearing age have advanced education. Even so, those unemployed and with low economic status have a higher percentage than those who work with high economic status. In contrast, the results of previous studies indicate that the use of postpartum family planning tends to be done by working and highly educated mothers. However, women who do not want children will not take advantage of these family planning services [22]. Apart from that, educated mothers tend to be able to control themselves to avoid stress because of the many responsibilities they carry out every day [23].

This study found that the husband's support was associated with participation in family planning. This finding aligns with previous research in South Africa, which found that women with male partners who support family planning influence family planning practices and contraceptive use. The identified pathways through which the male partner positively influences family planning, contraceptive use, and access include social support, adequate information, and shared responsibility [24]. The perspective of contraceptive users is that the group of women is still very high in society. Groups of men can also play a role as users of contraceptives. Previous studies have shown that groups of men are willing to become users of contraceptives [25]. However, the limited choice of male hormonal contraception (MHC) is an obstacle to reaching men as clients of family planning programs. If the husband has the same understanding as that, then the husband will give full support to his wife to use contraception or even those who use it. However, husbands in Indonesia still consider it taboo to use long-term contraceptive methods, except for condoms. This condition makes contraception for women very reliable to support the success of family planning programs. On the other hand, women's dependency on their husbands is still high, both financially and materially, because most of them are unemployed. Therefore, if the husband does not provide comprehensive support for contraceptive services, this can impact women's reluctance to use contraception.

Access to health services is the key to success in using contraceptives. Women of childbearing age will get all the necessary services, information, and contraceptive care. Moreover, if the stock of contraceptives is unavailable or runs out of health services, it will reduce the use of contraceptives by women of childbearing age [22]. This access is becoming increasingly important because of outside influences that could thwart the use of

contraceptives, such as beliefs, beliefs in religion and culture, like a study conducted in Kisumu, Kenya, the stigmatization of young women who need abortion and contraception has increased the need for access to health services [26]. Another study in Canada also supports this. The low use of contraceptives requires increased health education to the public by health workers. In addition, policy and system support, as well as health consultation facilities, are also needed to expand socialization of the importance of using contraceptives [27]. Women of childbearing age in Mojolaban, Indonesia, who think that the support from health workers is low and high have almost the same percentage. This finding shows the need for access to health services and health workers is increasing. Especially, midwives have a critical role in providing contraceptives to women of childbearing age because they work in every village spread all over Indonesia [28].

Access to information has a significant relationship with the use of contraceptives. Many women of childbearing age still have concerns about the effects of using contraceptives. Therefore, women of childbearing age need to actively access information about the types of contraceptives and the impact of their use. For example, women in the Philippines are proven to choose modern contraceptives after being exposed to information about family planning via television/radio [29]. Using an application in the current digital era has also proven effective as a source of information and a reminder for mothers [30]. Women of childbearing age in Mojolaban also need information about contraception because the percentage is higher in the late adult age group with more than two children (risk group). Providing online information about contraception during the COVID-19 pandemic is the best alternative. Health workers continue to provide information offline as needed [31]. Health workers trained in providing information on modern types of contraceptives have been shown to increase the uptake of contraceptive users in low- and middle-income countries [32]. Access to information about reproductive health requires credible and trusted sources so that various unwanted risks can be avoided [33]. The recommendation for further research is to deepen the capacity and potential of contraceptive services on the part of providers and health workers during a pandemic or disaster.

5. CONCLUSION

Access to information is the most important factor that women of childbearing age want to use contraception during the COVID-19 pandemic. In addition, access to health services and husband's support are complementary factors to increase the willingness of women of childbearing age to use contraception. Health workers need to continue to educate productive age couples about the side effects of each type of contraception so they feel safe in their use.

ACKNOWLEDGEMENTS

The authors acknowledge the Lembaga Riset dan Inovasi (LRI) Universitas Muhammadiyah Surakarta which has funded all research activities that have been carried out wich the Research Grant Number is 110.20/A.3-III/LRI/VI/2022.

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