



HEALTH PROVIDER'S CHARACTERISTICS ASSOCIATED WITH SIDE EFFECTS OF CONTRACEPTIVE USE IN INDONESIA

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Abstract

Contraceptive use is important in birth control and family planning, with various methods tailored to individual needs and health conditions. This study aims to explore more deeply the characteristics of service providers and the side effects of contraception used in Indonesia. This study used secondary data from the Indonesian Family Survey (IFLS) to analyze contraceptive side effects in 8,167 women selected through stratified random sampling. The main focus was the type of health service provider, with analysis using univariate, bivariate, and multivariate techniques through binary logistic regression. Nearly 40% of women experience contraceptive side effects, influenced by age, provider type, and contraceptive method. Women who receive services from community health centers or private clinics tend to experience fewer side effects than those who receive services from hospitals. Use of the pill or permanent methods is also associated with fewer side effects. Therefore, education and training for health care providers need to be improved to ensure appropriate counseling.

Keywords: Contraceptive use, Service providers, Healthcare, Side effects, Indonesian Family Survey (IFLS)

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PENDAHULUAN

Contraceptive use has become an important step in birth control and family planning throughout the world, including Indonesia (Nurjaeni et al., 2021). Various contraceptive methods have been introduced to provide choices that suit the needs and health conditions of each individual (D'Souza et al., 2022). However, side effects that arise from the use of contraception remain a relevant issue and are often a determining factor in the choice of contraceptive methods by users (Teal & Edelman, 2021). In Indonesia, although the rate of contraceptive use is relatively high, many users complain about side effects that affect their comfort and satisfaction with the contraception they use (Amini et al., 2024).

Contraceptive method choice and side effect experiences are influenced by a variety of factors, including age, marital status, type of contraception used, and characteristics of the health care provider (Sanchez et al., 2021). Younger users may be more likely to choose long-term contraception, while those who are older or married are more selective in their choice of method soin (Soin et al., 2022). Side effects also vary by age, with women of childbearing age often experiencing more intense hormonal effects (Pradhan et al., 2020). Marital status influences contraceptive choice, with married couples more open to long-term methods. The type of contraception also plays a major role, with hormonal methods more likely to cause side effects such as menstrual cycle changes and weight gain (Calhoun et al., 2022). In addition, knowledgeable and communicative health care providers can reduce user anxiety and minimize side effects (Yeh et al., 2022).

Several studies in various countries have shown that the experience and knowledge of health care providers greatly influence the success rate of contraceptive use and management of side effects (D'Souza et al., 2022; Leelakanok et al., 2022; Soin et al., 2022; Wood et al., 2020). In Indonesia, although there has been ongoing training and education for medical personnel, there has not been sufficient adequate research on how the characteristics of health care providers can be directly related to the impact of side effects on contraceptive users (Gayatri, 2020; M & Margiana, 2022). Other factors, such as the communication approach used by health care providers, can also affect the contraceptive user

experience (Maretalinia et al., 2023). When communication between service providers and contraceptive users is not going well, the risk of misunderstandings about side effects and how to handle them increases. This can lead to user dissatisfaction with the contraceptive method used, even to premature cessation of contraceptive use. In addition, aspects of the work environment and health facilities also need to be considered as part of the characteristics of health care providers (Charron et al., 2020). The availability of adequate medical facilities, such as comfortable consultation rooms, and sufficient time to provide detailed explanations to patients, can contribute to more effective management of side effects. Limited facilities or short time in providing services can cause health care providers to be unable to provide sufficient explanations about potential side effects, thereby reducing the success rate of safe and comfortable contraceptive use (Lince-Deroche et al., 2020). Therefore, this study aims to explore more deeply the characteristics of service providers and the of side effects of contraceptives used in Indonesia.

METODE

This study utilized a cross-sectional design based on secondary data from the fifth wave of the Indonesian Family Life Survey (IFLS), which covers 83% of the Indonesian population. The focus was on women who were using contraceptive methods during the survey period. After cleaning the data and excluding missing information related to the key variables, the final sample consisted of 8,167 women. These samples were selected through stratified random sampling based on their place of residence.

The dependent variable was the presence of contraceptive side effects (yes/no), while the main independent variable was the type of health provider (hospital, community health center, private clinic, or unqualified providers). Control variables included the women's age and marital status.

Data analysis involved univariate, bivariate, and multivariate techniques. Univariate analysis summarized categorical data using frequencies and percentages, and numeric data with means, minimums, and maximums. Bivariate analysis used Chi-square tests and t-tests. Multivariate analysis was conducted using binary logistic regression with a dummy variable for side effects and health provider types, adjusting for age, marital status, and type of contraception. The

analysis was performed using STATA version 18. Ethical approval for using IFLS secondary data was granted by Gadjah Mada University, Indonesia, and RAND Corporation, USA.

RESULT AND DISCUSSION

Table 1 below provides the information of side effect of contraceptive use among women of reproductive age (15 to 49 years old). Among total number of study sample, almost 40% of them had the side effects of using contraception methods. In terms of their age, the average age was 33 years old with minimum 15 years old and maximum 49 years old. Almost all of them were married (99.52%). According to health providers of the contraceptive, women's who got the services from hospital 9.51%, community health centers (pusat Kesehatan Masyarakat) 12.82%, private clinic, posyandu (integrated health post), and midwifery 67.56%, and traditional birth attendance, friends, and family 10.10%. Based on the contraceptive used, women who the partner used condom, women using IUD, and traditional methods was 19.31%, women used pills 18.42%, and injection and sterilization was 62.28%.

Tabel 1. General characteristics of the study sample

Variables (N=8,167)	Frequency	Percentage (%)
Side effect of contraceptive (ref: No)		
No)	4,962	60.76
Yes	3,205	39.24
	Mean=32,7	
Age	2	Min-Max = 15-49
Marital status (ref: married)		
married)	8,128	99.52
Separated	16	0.20
Divorced	23	0.28
Health providers (ref: hospital)		
hospital)	777	9.51
Puskesmas	1,047	12.82
Private/posyandu/midwifery	5,518	67.56
Traditional birth attendance/friends/etc	825	10.10
Contraceptive (ref:condom/IUD/traditional)		
condom/IUD/traditional)	1,577	19.31
Pills	1,504	18.42
Injection and sterilization	5,086	62.28

The bivariate analysis in this study was describes in table 2 below. Each independent variable including age, marital status, health provider, and contraceptive method type had association with side effect. This bivariate analysis used Chi-square and t-test.

Tabel 2. Bivariate analysis of association between each independent variable and side effect

Variable	Side effect		Total	Chi-square (p-value)
	No	Yes		
Age	60.76	39.24		3.83**
Marital status (ref: married)	60.85	39.15	8,128	6.48*
Separated	43.75	56.25	16	
Divorced	39.13	60.87	23	
Health providers (ref: hospital)	53.41	46.59	777	37.28***
Puskesmas	56.54	43.46	1,047	
Private/posyandu/midwifery	61.82	38.18	5,518	
Traditional birth attendance/friends/etc	65.94	34.06	825	
Contraceptive (ref:condom/IUD/traditional)	48.57	51.43	1,577	161.03***
Pills	70.61	29.39	1,504	
Injection and sterilization	61.62	38.38	5,086	

Binary logistic regression was tested to examine the association between health providers and side effect of contraceptive used as well as the control variables. In the Table 3 below, increasing one year of women age, the odds of have side effects was decreasing 2%. Comparing with those got the contraceptive service from hospital, women who got it from community health centers was lowering 8% of receiving side effects. Additionally, the odds also lower for women who got the services from private clinic, posyandu, and midwifery by 21% and who got from traditional birth attendance or friends 34%. It is surprisingly, that services from unskilled health providers got lower risk of side effects of contraceptive used. Moreover, compared to women who her husband used condom, women used IUD, and traditional methods, women who used pills lowering the odds of having side effects by 42%, and women with injection and sterilization reduced the risk of side effects by 32%. The findings below shows insignificant association between marital status and side effect of contraceptive use.

Tabel 3. Binary logistic regression of association between health provider and side effect

Variables	Adj Odds ratio	Std. err.	<i>p-value</i>	[95% conf. interval]	
				Lower	Upper
Age	0.98	0.00	0.0000	0.98	0.99
Marital status (ref: married)					
Separated	1.72	0.88	0.2880	0.63	4.68
Divorced	2.04	0.88	0.0990	0.87	4.75
Health providers (ref: hospital)					
Puskesmas	0.82	0.08	0.0380	0.67	0.99
Private/posyandu/midwifery	0.79	0.06	0.0030	0.67	0.92
Traditional birth attendance/friends/etc	0.66	0.07	0.0000	0.53	0.81
Contraceptive (ref:condom/IUD/traditional)					
Pills	0.41	0.03	0.0000	0.35	0.48
Injection and sterilization	0.58	0.04	0.0000	0.52	0.66
_cons	2.37	0.37	0.0000	1.74	3.22

The results of this study indicate that there is variation in the relationship between health service providers and side effects of contraceptive use, with different effects depending on the type of health service provided. Specifically, this study found that as women get older, the risk of experiencing contraceptive side effects tends to decrease by 2%. This is in line with previous studies showing that older women tend to have better tolerance to hormonal contraceptives, or they are more likely to choose non-hormonal contraceptive methods that have milder side effects (Baker et al., 2003).

Furthermore, the findings in this study also showed that women who received contraceptive services from community health centers (puskesmas) had a lower chance of experiencing side effects, namely a decrease of 8% compared to women who received services at hospitals. Contraceptive services at puskesmas are often more personalized and community-based, allowing service providers to better understand the specific needs of users and provide better information about potential side effects (Nurdini et al., 2024). In contrast, hospital services, although more technologically advanced, may be less personal and more formal, which may affect the level of trust and comfort of users (Alquran et al., 2024).

Of interest is the finding that women who received services from unskilled health care providers, such as traditional birth attendants or friends, showed a 34% reduction in the risk of

study that contraceptive pills often have a milder side effect profile than injections or IUDs, although some pill users experience hormonal disturbances such as changes in mood or menstrual cycles (Martell et al., 2023). Women who choose injections or sterilization may be more open to the potential for more serious side effects, such as weight changes or decreased libido, but they still perceive the long-term benefits of these methods as greater (Schrumpf et al., 2020).

No significant association was found between marital status and contraceptive side effects in this study, suggesting that marital status may not play a direct role in determining the side effects experienced by contraceptive users. This is in line with a study that found that socio-economic factors and personal preferences were more influential than marital status in the choice of contraceptive method and its effect on side effects (Anik et al., 2022). However, there are also previous studies that show a significant relationship between these two variables (D'Souza et al., 2022; Nurjaeni et al., 2021).

This study has several limitations that should be considered when interpreting the findings. Firstly, the use of secondary data from the Indonesian Family Life Survey (IFLS) may limit the ability to control for certain unmeasured confounding variables, such as individual health history or specific cultural factors influencing contraceptive use. Secondly, the reliance on self-reported data for side effects and contraceptive use may

introduce reporting bias, as participants might underreport or overreport their experiences. Additionally, the cross-sectional nature of the study prevents the establishment of causal relationships between health provider characteristics and contraceptive side effects. The generalizability of the findings may also be limited to the specific context of Indonesia, and results may vary in different regions or countries with distinct healthcare systems and cultural norms. Lastly, the categorization of health providers into broad groups (e.g., hospitals, community health centers, and traditional providers) may not fully capture the nuances of service quality and provider training, which could influence contraceptive side effects more specifically.

CONCLUSION

Based on the results of this study, almost 40% of women experience side effects due to contraceptive use. Factors such as age, type of health care provider, and type of contraception used have been shown to influence the risk of side effects. Logistic regression results show that as age increases, the likelihood of experiencing side effects decreases by 2%. Women who receive contraceptive services from community health centers, private clinics, integrated health posts, midwives, or even traditional healers are at lower risk of experiencing side effects compared to those who receive services from hospitals, although this may seem contrary to expectations. On the other hand, women who use contraceptive pills or permanent methods such as injections and sterilization tend to experience lower side effects compared to those who use condoms or traditional methods. Interestingly, marital status did not show a significant association with contraceptive side effects. These findings provide important insights into the influence of the type of health care service and type of contraception on the experience of side effects. Efforts are needed to improve education and training for health care providers, especially those who are untrained, to ensure appropriate counseling about the potential side effects of contraception and the selection of the most appropriate method for each individual

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