

Current Trends in Contraceptive Use and Fertility Concerns among Women of Reproductive Age in Indonesia

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Abstract

Objective: To investigate the most recent trends in contraceptive use in Indonesia as well as evaluate fertility concerns and access to reproductive healthcare service.

Methods: Women of reproductive age in Indonesia were asked to fill in an online questionnaire. They were asked about sociodemographic characteristics, marital status, pregnancy history, perception towards fertility, and access to healthcare service and information. Descriptive statistics and independent t-test were performed.

Results: Of 370 women, more than half (57.8%) had used some form of contraception. The most frequently used contraceptive method was natural family planning (30.3%), followed by condom (20%). Women with no prior sexual history, had never been pregnant before, and had not been married cared more about having a child in the future. Internet and social media represented the most popular information source for family planning.

Conclusions: Many Indonesian women still prefer traditional contraceptive methods over the more effective modern contraceptive methods. Numerous socio-cultural factors are likely to influence the behaviour of reproductive-age women regarding contraceptive use and childbearing in the future. More effort should be put into raising awareness about modern contraceptive methods and addressing fertility concerns.

Keywords: awareness, contraception, family planning, fertility, reproduction.

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INTRODUCTION

Family planning is crucial in promoting the well-being of individuals, families, and societies by enabling informed reproductive choices, thus reducing maternal mortality and enhancing pregnancy health outcomes. The term family planning covers methods of contraception, procedures, and behaviors that empower individuals to control the number of children they want and the intervals between pregnancies.¹ One metric to monitor the performance of family planning programs in a country is by assessing the unmet need for family

planning. Women with an unmet need for family planning are those who want to stop or delay childbearing but are not using any method of contraception. The unmet need for family planning in Indonesia has relatively stagnated, ranging from 10% to 12% for the past 20 years.²

Since the concept was first introduced, family planning and contraception have substantially lowered maternal mortality rates by reducing the number of unplanned pregnancies and unsafe abortions. The use of contraceptives has also improved perinatal outcomes by increasing the

interval between pregnancies.^{3,4} According to a multi-country analysis family planning prevented approximately 272,000 maternal deaths worldwide annually, with the potential to avert another 104,000 deaths every year if the unmet need for family planning was addressed. In Indonesia, contraceptive use prevented up to 70.5% of maternal deaths in 2008.⁵ Altogether, substantial evidence has cemented family planning as a highly cost-effective public health intervention for reducing maternal and child mortality.²

In contrast, while family planning programs have focused on limiting the number of pregnancies, little emphasis has been given to the declining global total fertility rate (TFR) which is now below replacement level fertility (2.1 births per woman) in many countries.^{1,6} Indonesia has seen a gradual decrease in TFR, which currently sits at 2.204 births per woman, with significant regional disparities.⁷ Several factors influence contraceptive practices and fertility decisions among women, including the desire to delay childbirth for career and educational pursuits, as well as religious and cultural beliefs that shape attitudes toward family planning.⁸ Worryingly, discovered that up to 69% of young women also worried that contraception might negatively affect their ability to conceive in the future.⁹ This concern, if not properly addressed, may cause some individuals to end up using less effective contraceptive methods or avoid using contraception altogether. This study aimed to investigate the most recent trends in contraceptive use in Indonesia as well as evaluate fertility concerns and access to reproductive healthcare services.

METHODS

This study used an observational, cross-sectional study design aimed at investigating trends in contraceptive use and attitude towards fertility among Indonesian women of reproductive age. Data were collected using a self-developed online questionnaire distributed to the target population. The study was

conducted from January 2024 until May 2024. Eligibility criteria for the study's participants were; willing to provide informed consent before participating; women between the age of 18 and 40 years old; 3) able to access the Internet to fill in the online questionnaire; 4) residents of Indonesia. The study has obtained ethical clearance from the Ethics Committee of the Faculty of Medicine, Universitas Indonesia – Dr. Cipto Mangunkusumo Hospital.

Study Questionnaire

The questionnaire was developed by the research team after searching the literature and consulting experts in reproductive immunoendocrinology. It was designed to capture comprehensive information on several key areas: sociodemographic characteristics (age, education, marital status, pregnancy history), use or nonuse of contraceptives, attitude towards current and future fertility, and access to reproductive healthcare services and information about family planning. The questionnaire was designed in Indonesian language to cater to the target population. After finalization of the question items, the questionnaire was uploaded to Google Form and made available online. The questionnaire items can be found in Supplementary Material 1, which has been translated into English language.

Data Collection

The questionnaire link was distributed using convenience and snowball sampling methods through popular social media platforms in Indonesia such as Facebook, Twitter, Instagram, WhatsApp, and LINE. Participation was entirely voluntary with no incentives offered. On the first page of the questionnaire, participants had the option to contact the research team in case they did not fully understand any of the questions. All responses were then automatically compiled in Google Forms and downloaded as encrypted Microsoft Excel files accessible only by the research team, ensuring data security and privacy for all participants.

Statistical Analysis

Data were analyzed using IBM SPSS Statistics 27.0. Descriptive statistics were used to summarize the data regarding sociodemographic characteristics, prevalence of contraceptive use and nonuse, attitude towards fertility, access to reproductive healthcare services, and preferred sources of information regarding fertility and family planning. Independent t-test was utilized to compare the means of attitude towards current and future fertility between groups.

RESULTS

A total of 370 women of reproductive age participated in this study. Details on the sociodemographic characteristics of the respondents can be seen in Table 1.

Of 370 responses, 156 women claimed to never have sexual intercourse before (42.2%, almost half), while the rest had previously used some form of contraception for sex. The least commonly used contraceptive methods were

Most respondents (74.6%) believed that they could access reproductive healthcare service conveniently (Figure 3). Regarding sources of health information concerning fertility and family planning, the Internet and social media represented the most popular platform (78.6%), followed by obstetricians and gynecologists (64.6%) and period tracking mobile application (50.8%). Meanwhile, general practitioner (21.9%), nurse and/or midwife (31.6%), and family and/or friend (32.4%) showed comparable popularity.

DISCUSSION

Data from 2017 Indonesia Demographic and Health Survey (IDHS) showed that many women of childbearing age preferred modern contraceptive methods (41.4%) over traditional contraceptive methods (4.6%). The most frequently chosen modern methods were injectables (20.9%), pills (8.7%), IUD (3.5%), and implants (3.4%). In contrast, our more recent study revealed that there

permanent birth control such as tubectomy or vasectomy (1,6%) and abstinence (5.4%). The most popular contraceptive method was natural family planning (withdrawal, calendar method, lactational amenorrhea, also known as traditional methods) with usage rate reaching up to 30.3%, followed by barrier method/condom (20%). The use of hormonal contraception and intrauterine device (IUD) was similar (12.2% and 14.3%, respectively). For those who had previously relied on hormonal contraception, the most commonly used was pill followed by injectable.

Women with no prior sexual history appeared to value their future fertility significantly more than sexually active women with prior contraceptive use. Similarly, fertility status in the future mattered significantly more for nulligravid women as well as unmarried women. Regarding perceived importance of current fertility status, no significant differences were found between the groups compared.

were more respondents who used traditional methods than modern methods. Condom was the most popular modern method, followed by IUD, pills, and injectables. However, these differences may not be entirely justifiable due to the relatively smaller number of samples in our study compared to IDHS which was conducted by the National Population and Family Planning Board, Statistics Indonesia, and the Ministry of Health. Nevertheless, it remains important to take these different trends into account since changes in sexual activity and contraception preference evolve over time. Trends in contraception are heavily influenced by rapid demographic and socio-cultural changes, especially in this digital era. Globally, many women of childbearing age nowadays are more sexually active, favor a smaller family, and tend to postpone parenthood after marriage. These behaviors not only affect contraceptive use but also the declining fertility rate.¹⁰ Moreover, easier access to the Internet has allowed virtually people

from all ages to research about contraceptives and fertility on their own.

Some of the probable explanations for underutilization of modern contraceptive methods may be related to lack of knowledge on contraceptive usage, fear of side effects, socio-cultural barriers, financial constraints, and limited access to reproductive healthcare service.^{3,11} Such objection to using modern methods is unfortunate because they have already been proven to be significantly more effective than traditional methods.¹² Fear of side effects may be partially responsible for the increasing popularity of traditional methods among Indonesian women living in urban areas with higher education.^{2,13} In the United States and Europe, a large percentage of women remain opposed to using hormonal contraception due to fear of side effects and concerns about future fertility. Many of them have also shared these concerns, colloquially known as “hormonophobia”, on social media platforms which further propagate misinformation.¹⁴ Thus, counseling on modern contraceptives should cover both the effectiveness of each contraceptive and how to manage any accompanying side effects. This study revealed that reproductive healthcare service was accessible for most respondents, and the most influential source of information was the Internet and social media. Obstetricians and gynecologists, general practitioners, and other health professionals need to be more involved in regulating information online to prevent any circulating misinformation.

In Indonesia, the role of a woman's partner or spouse is also crucial in determining whether or not she uses contraceptives.¹⁵ An Indonesian study found that women with lower spouse's education were more likely to have an unmet need for family planning.³ This pattern can also be found in other countries with strong patriarchal societies.^{16,17} Hence, efforts to engage men in family planning must be initiated by educating them on the socioeconomic and health benefits of using contraceptives for couples as well as debunking common misconceptions surrounding modern methods.^{2,16} Regardless of their initial

opinions on family planning, many men were found to be open to learning more about it and discussing it with health professionals.¹⁶

Regarding financial barriers, it appears that many women in Indonesia are not fully aware that the country's national health insurance program, *Jaminan Kesehatan Nasional (JKN)*, provides family planning services for free. As a result, many women obtain their contraceptives from pharmacies or private practices and therefore pay out of pocket. Increasing public awareness of the JKN family planning services can help encourage more women to use modern methods of contraception.¹⁸

Another important misconception that must be addressed is the fear that using contraceptives might negatively affect future fertility.⁹ Multiple studies have shown that the use of contraceptives, regardless of the type and duration, does not negatively affect a woman's chance of conceiving and does not significantly delay the return of fertility.^{19,20} An Indonesian study also produced similar findings, in which no significant relationship was found between the length of time using contraceptives and the return of fertility after family planning.²¹ In this study, it was found that future fertility was perceived differently depending on whether a woman has been sexually active and used contraception, has been pregnant, or has been married before. These findings are likely to be influenced by country-specific cultural and social factors, such as fear of social insecurity, family income, number of siblings, type of residence, religious beliefs, and ethnic affiliations. Altogether, these factors are an important determinant of fertility rate in a country.²²⁻²⁴ Future research is needed to elucidate the relationship between these variables and attitude towards fertility whilst considering the varying socio-cultural factors among countries.

CONCLUSION

In conclusion, modern contraceptive methods remain underutilized among women of reproductive age in Indonesia, which further increase the unmet need for

family planning. Women in Indonesia should be counseled on the types of modern contraceptives available, effectiveness, how to manage accompanying side effects, and the available family planning services provided for free by national health insurance. Several socio-cultural factors such as prior sexual history and contraceptive use, history of pregnancy, and marriage may influence women's views on having a child in the future. These behaviors must be analyzed to seek solutions for managing the declining fertility rate.

AUTHORSHIP CONTRIBUTIONS

RM, ECY, and ANI conceived the study idea, formulated the study design, obtained ethical approval and consent from participants, carried out data collection and analysis, and wrote the original draft of the paper. KS, AKH, GP, MM, and RHK contributed to data analysis, data interpretation, and comments for revision of the paper. BW and AH supervised the study and data collection process and helped with revision of the paper. All authors read and approved the final manuscript.

DECLARATION of COMPETING INTEREST

The authors have no conflicts of interest relevant to this article.

FINANCIAL DISCLOSURE

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Table 1. Sociodemographic Characteristics of Respondents

Variable	N (%)
Age group	
18-30	208 (56.2)
31-40+	162 (43.8)
Education	
Middle school	1 (0.3)
High school	24 (6.5)
Diploma	56 (15.1)
Bachelor's degree	218 (58.9)
Postgraduate	71 (19.2)
Marital status	
Not married	172 (46.5)
Married	198 (53.5)
Pregnancy history	
Nulligravid women	211 (57.0)
Parous women	159 (43.0)

Table 2. Attitude towards fertility according to prior sexual history and contraceptive use

Variable	Women with no prior sexual history	Sexually active women with prior contraceptive use	95% CI	p-value
Importance of fertility at present	4.33 ± 1.02	4.34 ± 1.05	-0.23 – 0.20	0.917
Importance of fertility in the future	4.68 ± 0.74	4.33 ± 1.10	0.17 – 0.54	<0.001*

Values are presented as mean ± SD except otherwise noted.

*P-value < 0.05. Independent t-test was used.

Attitude scores were evaluated using 5-point Likert scale (1 = very not important; 5 = very important)

Table 3. Attitude towards fertility according to pregnancy history

Variable	Nulligravid	Gravid	95% CI	p-value
Importance of fertility at present	4.39 ± 0.97	4.27 ± 1.13	-0.10 – 0.33	0.280
Importance of fertility in the future	4.70 ± 0.68	4.18 ± 1.22	0.31 – 0.74	<0.001*

Nulligravid refers to women who have never been pregnant before. Gravid refers to women who have been pregnant before. Values are presented as mean ± SD except otherwise noted.

*P-value < 0.05. Independent t-test was used. Attitude scores were evaluated using 5-point Likert scale (1 = very not important; 5 = very important)

Table 4. Attitude towards fertility according to marital status

Variable	Not married	Married	95% CI	p-value
Importance of fertility at present	4.28 ± 1.03	4.39 ± 1.05	-0.32 – 0.10	0.311
Importance of fertility in the future	4.65 ± 0.76	4.33 ± 1.13	0.12 – 0.51	0.001*

Values are presented as mean ± SD except otherwise noted. *P-value < 0.05. Independent t-test was used.

Attitude scores were evaluated using 5-point Likert scale (1 = very not important; 5 = very important)