Original Research

The Indonesian Journal of Public Health
Vol 18. No. 1 April 2023
p- ISSN 1829-7005 e- ISSN 2540-8836

DETERMINANTS OF CONTRACEPTIVE USE IN RURAL POOR AREAS: EVIDENCE FROM INDONESIA

Maria Gayatri
National Population and Family Planning Board
Correspondence address: Jl. Permata no. 1, Halim Perdana Kusuma, Jakarta Timur, Indonesia
Email: maria.gayatri.bkkbn@gmail.com

ABSTRACT

Introduction: Meeting the demands of reproductive health among women poses persistent issues, particularly for impoverished and rural women who face impediments to healthcare services. The goal of this study was to explore the factors that influence contraceptive use among poor women in Indonesian rural areas. **Methods:** This study is a further analysis of Indonesia Demographic and Health Survey 2017. The respondents were 10,199 poor women who lived in rural areas in Indonesia. This quantitative study is analyzed by using logistic regression adjusted for complex sample. **Results:** The prevalence of modern contraceptive use among respondents was 63.1% consisting of 4.4% traditional users and 58.7% modern contraceptive users. The occupation of the husband and the wish to have no more children were both linked to the usage of contraceptive methods among impoverished women in rural areas. Young women (aged 15-34) with a high parity (three and more), who had secondary education or less, who went to the health facilities, and who lived in Java-Bali were more likely to utilize contraceptive methods. **Conclusion:** Despite the numerous hurdles to reproductive healthcare, it is critical to focus on methods to improve contraceptive use among poor women in rural areas.

Keywords: Contraceptives, Indonesia, Poor, Rural

INTRODUCTION

One of the public health interventions aimed at preventing pregnancy and lowering the risk of maternal and child morbidity and mortality is family planning program (Hossain et al., 2018). Contraceptive methods, either temporary or permanent methods, help couples to space or limit their pregnancies (Peer et al., 2013; Wulifan et al., 2017). Ensuring access to contraceptive services for couples is needed to ensure the human rights to determine how many children they want and whether they want to space the pregnancy (Shiferaw et al., 2017). Unprotected intercourse raises the risk of unintended pregnancy, unsafe abortion and unfavorable health consequences (Lebese et al., 2013). Reducing the risk of unwanted pregnancy is a critical approach for alleviating poverty and improving women's health (Darney et al., 2013).

Between 1970 and 2017, contraceptive use is predicted to have accounted for a reduction of 37.5%-43.1% of maternal deaths in Indonesia (Utomo et al., 2021). Family planning is one of the four pillars of safe motherhood initiatives, a preventive strategy against maternal, perinatal and infant deaths, together with the other three pillars: ANC, safe delivery, and essential obstetric care (World Health Organization, 1994).

Rumors, myths, misperceptions and misinformation related to contraceptive side effects or health concerns, such as menstrual irregularities and fear of infertility after discontinuing reversible contraception, affect contraceptive adoption among women in Indonesia and other countries (Amnesty International, 2010; Gayatri et al., 2022; Gueye et al., 2015; Odwe et al., 2021; Sedgh & Hussain, 2014). Moreover, spousal communication, beliefs and cultural factors affect the modern contraceptive acceptance, adoption and continuation (Adebowale & Palamuleni, 2014; Lebese et al., 2013; Muanda et al., 2017; Odwe et al., 2021; Peer et al., 2013). As a result, it's critical to ensure couples have comprehensive contraceptive services for meeting their reproductive goals.

Cite this as: Gayatri, M, (2023). Determinants Of Contraceptive Use In Rural Poor Areas: Evidence From Indonesia, 18(1), 34-46. https://doi.org/10.20473/ijph.v18i1.2023.34-46

Meeting the needs of reproductive health among women faces persistent challenges, particularly for impoverished and rural women who face impediments to healthcare. Prior studies have identified predictor variables of contraceptive use such as women's age (Hossain et al., 2018; Mahato et al., 2020; Singh et al., 2020), women's education (Ontiri et al., 2019; Zegeye et al., 2021), women's occupation (Hossain et al., 2018), husband's education (Hossain et al., 2018; Singh et al., 2020), husband's occupation (Singh et al., 2020), children ever born (Adhikari, 2010; Desalegn et al., 2019; Lakew et al., 2013; Lasong et al., 2020; Schoemaker, 2005; Singh et al., 2020), visiting health facilities (Abraha et al., 2018; Kamal & Islam, 2010), husband's fertility desire (Gayatri & Utomo, 2019; Hossain et al., 2018; Ontiri et al., 2019), and region of residence (Gayatri & Utomo, 2019).

The strategic plan 2020-2024 of the National Population and Family Planning Board targeted to increase modern contraceptive prevalence rate (CPR) from 61.78% in 2020 to 63.41% in 2024 and reduce the unmet need for family planning from 8.6% in 2020 to 7.4% in 2024 (National Population and Family Planning Board, 2020). The target of the family planning program is calculated based on the national data. The most popular contraceptive method in Indonesia is injectable (National Population and Family Planning Board, 2018). Injectable is an effective contraceptive method if it is used correctly. Many women in Indonesia use injectables because they do not need to remember to take on oral contraception each day.

Increasing reproductive women's access to contraceptive services is projected to promote contraceptive adoption and reduce unmet family planning needs. To promote rights-based family planning, it is critical to identify characteristics linked to contraceptive usage, particularly for vulnerable groups of women living in rural areas under difficult conditions. However, there are limited studies that analyze contraceptive use in this specific group of women in Indonesia.

The goal of this study was to determine the contraceptive prevalence among impoverished women aged 15 to 49 who lived in rural areas of Indonesia, as well as the factors that influenced contraceptive use. The study examines women who are vulnerable because of their socioeconomic condition. This research is very important for policy makers to determine priorities for family planning programs in specific areas.

METHODS

The analysis of contraceptive use in Indonesia used data from the Indonesia Demographic and Health Survey (IDHS) 2017. IDHS was conducted using a multi-stage sample design that produced national estimation on maternal and child health indicators. In the first step, 1,970 census blocks were chosen, including 1,012 census blocks in urban areas and 958 census blocks in rural regions, using a systematic proportional to size method. A set number of 25 families per census block were randomly picked in the second step. A total of 49,627 women between the ages of 15 and 49 were chosen and interviewed. (National Population and Family Planning Board, 2018).

The analysis was restricted to only rural poor women. Women aged 15 to 49 who lived in rural areas, lived in poor or poorest family conditions, and were married or living together with their spouses met the study's inclusion criteria. The indicator of poor and poorest is from the household wealth index in the IDHS questionnaire. The wealth index is calculated by using Principal Components Analysis (PCA) to determine the composite index (Croft et al., 2018; ICF, 2018). Some socioeconomic indicators of the household population in the IDHS questionnaire were used to determine wealth index such as drinking water

sources and treatment, sanitation/toilet facilities, housing characteristics (such as flooring materials or housing construction, cooking fuel), and the possession of durable household items such as phone, radio, television, refrigerator, and mode of transportation (motorcycle or car) (Croft et al., 2018; ICF, 2018; National Population and Family Planning Board, 2018). Then, the scores of wealth indicators were ranked for each respondent and distributed into five equal quintiles. The first quintile was categorized as poorest and the second quintile was categorized as poor.

Women who provided insufficient information about their contraceptive use and demographic features were omitted from the study. The weighted study sample utilized for analysis was 10,199 reproductive-age women in Indonesia who lived in rural regions and were in poor health, according to the inclusion and exclusion criteria.

The usage of contraception among women in rural poverty households was the study's main focus. The dependent variable was categorized into contraceptive user (Y=1) if women used any contraceptive methods (such as tubectomy, vasectomy, IUD, implants, injectables, oral contraceptive, barrier methods, LAM, withdrawal, rhythm, or other traditional methods) and non-contraceptive users (Y=0) if, at the time of the poll, women were not using any form of contraception.

There were nine predictor variables used in the analysis to explain the variability in contraceptive utilization among rural poor women in Indonesia. The factors were chosen based on their prior studies' contributions to contraceptive use. Those predictor variables were women's age classified in groups (15-34 and 35-49), the employment status of women and their husbands (not working or working), children ever born (0-2 children, 3 or more children), the experience of visiting a health facility in the previous semester (no or yes), and husband's wish for a child (both want no more, husband wants more, husband wants fewer). The educational levels of women and their husbands were categorized into primary or less (for those who had no education or who had primary school education), secondary (for those who had junior or senior high school education), and higher (for those who had diploma or bachelor or master or doctoral degree education). The variable of region is divided into Java Bali and outer Java Bali. Outer Jawa Bali region is based on the areas of the respondent's living such is in Sumatra, Borneo, Sulawesi, Papua, Nusa Tenggara or other islands in Indonesia beside Java and Bali.

Stata 15.1 was used to conduct the statistical analysis. Sample weights were used in the analysis to consider the unequal probability to be selected as samples between strata. Due to the multi-stage sampling design, the study used "svy" in Stata to adjust the analysis by complex sample with strata, primary sampling unit, and weighted variable.

The data have been analyzed by using descriptive statistics and inferential statistics. Descriptive analysis was used to show the sample distribution, by using frequencies and percentages, according to socio-demographic factors. Descriptive statistics were also used to determine the contraceptive prevalence among rural poor women in Indonesia. The next step was bivariate analysis by using the Chi-square test. The multivariate analysis incorporated significant variables from the bivariate study. The determinants of contraceptive adoption among Indonesian rural poor women were studied using multivariate analysis. Multivariate logistic regression adjusted by complex sample became the main analysis in this study.

Complex sample used in this study have considered sample weights, and data collection by using stratification and cluster design. Cluster design in this analysis represents the population in specific region (province) in Indonesia. The association between contraceptive utilization and the predictor variables was

measured using odds ratios with a 95% confidence interval.

Before the surveys were conducted, the Demographic and Health Survey (DHS) Program (DHS-7) project met all of the standards of 45 CFR 46, "Protection of Human Subjects" from the Institutional Review Board (ICF IRB FWA00000845). The study participants signed informed consent before they were interviewed in the survey. After receiving permission from The Demographic and Health Survey (DHS) Program, this study used the IDHS dataset. This study's IDHS 2017 data did not include any personal information.

RESULT

Table 1 shows the characteristics of currently married or in-union women who resided in rural areas under difficult situations. The findings show that the proportions of women aged 15 to 34 and 35 to 49 are practically identical. The data also show that over 60% of the spouses had only a primary school education or none at all, about 58% of women lived in Java-Bali islands, 63% of women had two children or less, 62% of women were working while almost 99% of their spouse were currently working. Additionally, 50.5% of women visited health facilities in the previous six months. The results in the table also show that about three-quarters of husbands want fewer children than their wives.

The unadjusted (crude) odds ratio (COR) and adjusted odds ratios (AOR) are shown in Table 2. The results of the multivariate model suggest that women aged 35-49 years were more likely to use contraceptive methods (AOR=1.32, 95 percent CI: 1.17-1.49) than women aged less than 35 years. Women who have primary or less education (AOR=1.59, 95 percent CI: 1.25-2.03) and women who have secondary education (AOR=1.68, 95 percent CI: 1.34-2.10) were more likely to adopt contraceptives than those who have higher education. When compared to women whose husbands did not work, women with working husbands were more likely to use contraceptives (AOR=1.94, 95% CI:1.28-2.95). In comparison to their counterparts, women with three or more children (AOR=1.35, 95% CI: 1.20-1.52) and women who visited health facilities in the previous six months (AOR=1.23, 95% CI: 1.10-1.37) were more likely to take contraceptives. When compared to couples whose husbands want fewer children than their women, those who want no more children were more likely (AOR=1.76, 95% CI; 1.48-2.10) to use contraception (AOR=1.76, 95% CI; 1.48-2.10). Furthermore, women from the Java-Bali islands were more likely to utilize contraceptive techniques (AOR=1.48, 95% CI: 1.29-1.70) than women from other Indonesian islands.

Table 1. Individual characteristics for rural poor women of reproductive age by contraceptive use status, IDHS 2017

Characteristics	Non-contraceptive users (n=3,758)	Contraceptive users (n=6,441)	Total (10,199)
Women's age			
15-34	48,1%	50.6%	49.7%
35-49	51.9%	49.4%	50.3%
Women's Education			
Primary or less	56.4%	56.7%	56.6%
Secondary	39.1%	40.8%	40.2%
Higher	4.5%	2.5%	3.2%
Husband's Education			
Primary or less	56.6%	58.3%	57.7%

Characteristics	Non-contraceptive users (n=3,758)	Contraceptive users (n=6,441)	Total (10,199)
Secondary	39.9%	39.1%	39.4%
Higher	3.5%	2.6%	2.9%
Women's Occupation			
Not working	35.9%	39.9%	38.4%
Working	64.1%	60.1%	61.6%
Husband's Occupation			
Not working	2.0%	1.0%	1.3%
Working	98.0%	99.0%	98.7%
Children Ever Born			
0-2 children	65.2%	61.7%	63.0%
3 or more children	34.8%	38.3%	37.0%
Visit health facility in the previous 6 months			
No	53.2%	47.4%	49.5%
Yes	46.8%	52.6%	50.5%
Husband's fertility desire			
Both wants no more	7.9%	13.3%	11.3%
Husband wants more	14.7%	13.0%	13.7%
Husband wants fewer	77.4%	73.7%	75.0%
Region			
Java-Bali islands	63.6%	55.4%	58.4%
Outer Java-Bali islands	36.4%	44.6%	41.6%

DISCUSSION

Based on the Indonesia Demographic and Health Survey, 2017, this study looked at individual sociodemographic characteristics associated to contraception use among Indonesian rural poor women. The findings demonstrated that women's age, women's education, husband's employment status, children ever born, the experience of visiting health facilities in the previous six months and, region of residence had a significant influence on contraceptive use among rural poor women in Indonesia. According to the findings, 63.1% of respondents used contraception, with 4.4% using traditional contraceptives and 58.7%using modern contraceptives. In Indonesia, the contraceptive prevalence rate among impoverished women (63.1%) was slightly lower than the national average (63.6%) (National Population and Family Planning Board, 2018). Women's age, as expected, had a positive impact on contraceptive use among Indonesian rural poor women. Contraceptive use was higher among older women than among younger women, which was consistent with other studies in India (Singh et al., 2020), rural Nepal (Mahato et al., 2020), and five Mesoamerican countries (Rios-Zertuche et al., 2017). The possible reason can be that women aged 35-49 years had already reached their fertility goals and desired to stop their childbearing. Additionally, the awareness of current contraceptive options was higher among older women from many sources of information including their peers, families, relations, or neighbors (Singh et al., 2020). However, some studies found that younger women were more inclined to use contraceptives, which they attributed to their husbands' better communication on family planning concerns and young women's values of having fewer children. (Bakibinga et al., 2019; Lakew et al., 2013; Zegeye et al., 2021).

Table 2. Logistic regression modelling associations between individual characteristics and contraceptive use among rural poor women, IDHS 2017

Characteristics	COR (95% CI)	AOR (95% CI)
Women's age		
15-34	1	1
35-49	0.90 (0.82-1.00)**	1.32 (1.17-1.49)*
Women's Education		
Primary or less	1.79 (1.44-2.24)**	1.59 (1.25-2.03)**
Secondary	1.86 (1.50-2.31)**	1.68 (1.34-2.10)**
Higher	1	1
Husband's Education		
Primary or less	1	1
Secondary	0.95 (0.86-1.05)	0.97 (0.86-1.08)
Higher	0.71(0.55-0.90)*	0.92 (0.69-1.23)
Women's Occupation		
Not working	1	1
Working	0.84 (0.75-0.95)*	0.92 (0.82-1.04)
Husband's Occupation		
Not working	1	1
Working	2.02 (1.33-3.07)*	1.94 (1.28-2.95)*
Children Ever Born		
0-2 children	1	1
3 or more children	1.16 (1.04-1.29)*	1.35 (1.20-1.52)*
Visit health facility in the previous 6 months		
No	1	1
Yes	1.26 (1.13-1.40)*	1.23 (1.10-1.37)*
Husband's fertility desire		
Both wants no more	1.76 (1.48-2.09)*	1.76 (1.48-2.10)*
Husband wants mor	0.93 (0.81-1.08)	0.93 (0.80-1.08)
Husband wants fewer	1	1
Region		
Java-Bali islands	1.41 (1.24-1.61)*	1.48 (1.29-1.70)*
Outer Java-Bali islands	1	1

Note: *: p-value < 0.01; **: p-value < 0.05; CI: Confidence Interval; AOR: Adjusted Odds Ratio; COR: Crude Odds Ratio

The data revealed that women's educational level had an impact on contraception use among Indonesian rural poor women. In this study, about 57% of women had primary or less education, which means that more than half of the rural poor women had lower educational levels and probably limited knowledge on contraceptive methods. Even though rural poor women had some disadvantages in socioeconomic conditions, including low educational level, the uptake of contraceptives was higher than those higher educated women. Free contraceptive services offered by the government to the poor through Indonesia's National Health Insurance Scheme can help to minimize inequity in access to family planning services, allowing the poor to have free contraception (Teplitskaya et al., 2018). Moreover, massive and mobile family planning services have increased family planning provision among poor women. Therefore, uneducated or low educated women in Indonesia can access family planning services provided by the Government. The uptake of contraceptives

was still low among higher-educated women. This could be assumed that higher educated women were knowledgeable about contraceptive methods and reproductive health, so this can cause fear of the health concerns or long-term side-effects of contraceptives (Azmoude et al., 2017). Some previous studies, on the other hand, found that highly educated women were more likely to utilize contraception (Lasong et al., 2020; Ontiri et al., 2019; Zegeye et al., 2021).

Previous research has shown that contraceptive use is higher among women with a higher educational level because more educated women have better contraception knowledge and affluence, which influences their decision to limit birth by using contraception (Zegeye et al., 2021). Moreover, tertiary-educated women had better access to contraceptive information and services (Ontiri et al., 2019). Education improved women's self confidence in household decision-making related to their fertility goals (Acharya et al., 2010; Meskele & Mekonnen, 2014; Nadeem et al., 2021; Rahman et al., 2014). Prior research in India and Nigeria, on the other hand, found no link between women's education and contraceptive use (Chinaeke et al., 2019; Singh et al., 2020).

Among rural poor women, the variable of spouse occupation had the largest correlation with contraceptive use. It is probably attributed to the fact that, in a rural poor family, the employed husband is the only breadwinner and becomes the central decision-maker in family planning. The strong supports on the values of small families among employed husbands in rural areas with limited resources lead to the use of contraception (Muhoza & Ruhara, 2019). A study revealed that women who experienced economic hardship tend to have lower fertility preferences (Orbeta, 2005). Similar findings were found from another study in India (Singh et al., 2020). This could be due to better knowledge about all aspects of contraception among working husbands and husband's support and involvement in the decisions that leads to better decision-making power for their wife to uptake contraceptive methods (Bogale et al., 2011). Moreover, working husbands had higher financial ability to buy contraceptive methods (Singh et al., 2020). Therefore, it is important to involve husbands as well as women when undertaking family planning programs and health promotion activities (Mahato et al., 2020).

The number of children ever born was found to be strongly linked to contraceptive use. Women with three or more children were more likely to adopt family planning methods than did women who had two or fewer children. This result is similar to other studies in Indonesia (Schoemaker, 2005), Ethiopia (Desalegn et al., 2019; Lakew et al., 2013), South Africa (Peer et al., 2013), Nepal (Adhikari, 2010), Zambia (Lasong et al., 2020), and India (Singh et al., 2020). According to a study on long-acting contraceptive use, nulliparous women are less likely to utilize long-acting contraceptives because they are afraid of infertility if they stop using them (Desalegn et al., 2019). Women with a high parity were more likely to utilize contraception because they wanted to stop their childbearing and they have already reached their desired number of children (Adhikari, 2010; Lakew et al., 2013). Moreover, women with three or more children had higher exposure on family planning information and services (Peer et al., 2013). Furthermore, satisfactory experience with the previous methods for spacing the pregnancies was associated with contraceptive choice and adoption (Odwe et al., 2021).

Women who went to a health facility the previous semester had a better chance than women who did not go to a health facility. This may be attributed to the fact that couples will receive information and counseling from healthcare providers on family planning for spacing or limiting childbearing. In the counseling process,

there were information exchange and interpersonal communication between women and healthcare providers. According to a previous study, healthcare counseling is an important strategy for satisfying unmet family planning needs and minimizing the risk of unwanted pregnancy (Chinaeke et al., 2019; Rios-Zertuche et al., 2017).

Visiting health facilities gives couples opportunities to access family planning services. Moreover, healthcare providers can inspire the couple who visited health facilities to accept contraceptives and motivate women by comprehensive counseling to encourage couples to use contraceptive methods (Kamal & Islam, 2010). The quality counseling on contraception not only increases contraceptives uptake but also increases contraceptives continuation (Dehingia et al., 2019). The counseling should include information on managing the potential side-effects after adopting contraceptives. Among postpartum mothers, visiting postnatal care services had increased the opportunity for family planning counseling, leading to the increase of their likelihood to adopt contraceptive methods during the postpartum period (Abraha et al., 2018).

Couples who did not intend to have children in the future were more likely to utilize contraception, according to the study. Other research backs up this conclusion (Gayatri & Utomo, 2019; Hossain et al., 2018; Ontiri et al., 2019). The desire to have children influences fertility rates especially among rural women (Wulifan et al., 2017). Those couples who decide to have no more children need to stop their childbearing by using contraceptive methods. These couples had met their reproductive goals by having sufficient numbers of children. Couples' communication in the numbers of children has a significant effect on adopting contraceptive methods to control their childbearing (Kamal & Islam, 2010). Consistent with findings from prior studies, a study on long-acting reversible contraception showed that couples who had no desire for more children tend to use long-acting contraceptives to prevent unintended pregnancies for a longer period of protection (Ontiri et al., 2019). A study in the Democratic Republic of Congo showed that husband's opposition to family planning was a substantial obstacle for contraceptive adoption in rural areas (Muanda et al., 2017). Spousal communication is important to have a similar perception and acceptance on family planning among husband and wife (Muanda et al., 2017). Furthermore, increasing marital communication may improve women's confidence in making decisions about their reproductive health in the home (Peer et al., 2013).

The study found that there were differences in contraceptive uptake across the regions in Indonesia. Geographic variability in contraceptive adoption might be a result of the difference in the availability of health facilities and healthcare providers in Java-Bali regions and other regions.

One of the study's strengths is the fact that it is based on a nationally representative sample of married women. However, there are several limitations to this research. Due to the nature of a cross-sectional investigation, the study was unable to determine the causal relationship between factors. Because the community characteristics related with contraceptive usage among poor women in Indonesia are not shown in this study, the variance of contraceptive utilization between communities cannot be determined.

CONCLUSIONS

According to this survey, around 63% of rural poor women use contraception to avoid pregnancy. Despite the numerous hurdles to reproductive health care, it is critical to focus on the strategies to improve contraceptive use among poor rural women. The

sociodemographic factors associated with the increase of contraceptive uptake were older women (AOR=1.32; 95% CI: 1.17-1.49), secondary schooling or less women (AOR=1.59-1.68; 95% CI: 1.25-2.10), working husbands (AOR=1.94, 95% CI: 1.28-2.95), had three or more children(AOR=1.35, 95% CI: 1.20-1.52), visited health facilities in the previous six months (AOR=1.23; 95% CI: 1.10-1.37), couples wants no more children (AOR=1.76; 95% CI: 1.48-2.10), and lived in Java-Bali islands (AOR=1.48; 95% CI: 1.29-1.70).

It is recommended to increase mass media campaigns and contraceptive services among poor households in rural areas, especially for younger women. Increasing awareness among young women and newlywed couples is urgent to remind them about high-risk pregnancy and adverse health outcome of adolescent pregnancy. Family planning programming must produce and provide clear and accurate messages that are easy to comprehend for rural poor women, so that they may obtain accurate information and eliminate contraception myths. The presence of a robust link between visiting health facilities and contraceptive adoption was discovered in this study. Therefore, it is crucial to address the likelihood of missed opportunities in order to ensure that women who visit health facilities and have an unmet need for contraception are provided with comprehensive counseling by healthcare providers. Healthcare providers also need to improve and update their abilities in providing contraceptive counseling and services through the specific training program. Young and disadvantaged women in rural regions require improved reproductive health services in order to have better access to safe and effective contraceptive options for spacing or limiting their family size. Future research should be based on a qualitative study that examines all supply and demand elements of contraception use among rural poor women.

REFERENCES

Abraha, T. H., Gebrezgiabher, B. B., Aregawi, B. G., Belay, D. S., Tikue, L. T., & Welay, G. M. (2018). Predictors of postpartum contraceptive use in rural Tigray region, northern Ethiopia: A multilevel analysis. *BMC Public Health*, *18*(1), 1–10. https://doi.org/10.1186/s12889-018-5941-4

Acharya, D. R., Bell, J. S., Simkhada, P., Van Teijlingen, E. R., & Regmi, P. R. (2010). Women's autonomy in household decision-making: A demographic study in Nepal. *Reproductive Health*, *7*(15), 1–12. https://doi.org/10.1186/1742-4755-7-15

Adebowale, S. A., & Palamuleni, M. E. (2014). Determinants of unmet need for modern contraception and reasons for non-use among married women in rural areas of Burkina Faso.pdf. *African Population Studies*, *28*(1). https://doi.org/10.11564/28-1-503

Adhikari, R. (2010). Demographic, socio-economic, and cultural factors affecting fertility differentials in Nepal. *BMC Pregnancy and Childbirth*, *10*(19), 1–11. https://doi.org/10.1186/1471-2393-10-19

Amnesty International. (2010). *No choice: Barriers to Reproductive Health in Indonesia*.

Azmoude, E., Behnam, H., Barati-Far, S., & Aradmehr, M. (2017). Factors Affecting the Use of Long-Acting and Permanent Contraceptive Methods Among Married Women of Reproductive Age in East of Iran. *Women's Health Bulletin*, *4*(3), 1–8. https://doi.org/10.5812/whb.44426

Bakibinga, P., Matanda, D., Kisia, L., & Mutombo, N. (2019). Factors associated with use of injectables, long-acting and permanent contraceptive methods (iLAPMs)

among married women in Zambia: Analysis of demographic and health surveys, 1992-2014. *Reproductive Health*, *16*(1), 1–12. https://doi.org/10.1186/s12978-019-0741-6

Bogale, B., Wondafrash, M., Tilahun, T., & Girma, E. (2011). Married women's decision making power on modern contraceptive use in urban and rural southern Ethiopia. *BMC Public Health*, *11*(342), 1–7. https://doi.org/10.1186/1471-2458-11-342

Chinaeke, E. E., Fan-Osuala, C., Bathnna, M., Ozigbu, C. E., Olakunde, B., Ramadhani, H. O., Ezeanolue, E. E., & Sam-Agudu, N. A. (2019). Correlates of reported modern contraceptive use among postpartum HIV-positive women in rural Nigeria: An analysis from the MoMent prospective cohort study. *Reproductive Health*, *16*(1), 1–11. https://doi.org/10.1186/s12978-018-0663-8

Croft, T. N., Marshall, A. M., & Allen, C. K. (2018). *Guide to DHS statistics: DHS-7*. ICF.

Darney, B. G., Weaver, M. R., Sosa-Rubi, S. G., Walker, D., Servan-Mori, E., Prager, S., & Gakidou, E. (2013). The Oportunidades Conditional Cash Transfer Program: Effects on Pregnancy and Contraceptive Use among Young Rural Women in Mexico. *International Perspectives on Sexual and Reproductive Health*, *39*(4), 205–214. https://doi.org/10.1363/3920513

Dehingia, N., Dixit, A., Averbach, S., Choudhry, V., Dey, A., Chandurkar, D., Nanda, P., Silverman, J. G., & Raj, A. (2019). Family planning counseling and its associations with modern contraceptive use, initiation, and continuation in rural Uttar Pradesh, India. *Reproductive Health*, *16*(1), 1–11. https://doi.org/10.1186/s12978-019-0844-0

Desalegn, M., Belachew, A., Gizaw, M., Kejela, G., & Gudeta, R. (2019). Utilization of long-acting and permanent contraceptive methods and associated factors among married women in Adama town, Central Ethiopia: community based cross-sectional study. *Contraception and Reproductive Medicine*, *4*(1), 1–9. https://doi.org/10.1186/s40834-019-0101-5

Gayatri, M., & Utomo, B. (2019). Contraceptive method use in Indonesia : Trends and Determinants between 2007 , 2012 and 2017. *Indian Journal of Public Health Research & Development*, *10*(12), 1818–1823. https://doi.org/10.37506/v10/i12/2019/ijphrd/192130

Gayatri, M., Utomo, B., Budiharsana, M., & Dasvarma, G. (2022). Pregnancy resumption following contraceptive discontinuation: Hazard survival analysis of the Indonesia Demographic and Health Survey Data 2007, 2012 and 2017. *PLoS ONE*, *17*(2 February), 1–13. https://doi.org/10.1371/journal.pone.0264318

Gueye, A., Speizer, I. S., Corroon, M., & Okigbo, C. C. (2015). Belief in Family Planning Myths at the Individual And Community Levels and Modern Contraceptive Use in Urban Africa. *International Perspectives on Sexual and Reproductive Health*, *41*(4), 191–199. https://doi.org/10.1363/intsexrephea.41.4.0191

Hossain, M., Khan, M., Ababneh, F., & Shaw, J. (2018). Identifying factors influencing contraceptive use in Bangladesh: Evidence from BDHS 2014 data. *BMC Public Health*, *18*(1), 1–14. https://doi.org/10.1186/s12889-018-5098-1

ICF. (2018). *Demographic and Health Surveys: Standard Recode Manual for DHS 7*. The Demographic and Health

Surveys Program.

Kamal, S. M. M., & Islam, M. A. (2010). Contraceptive use: Socioeconomic correlates and method choices in rural Bangladesh. *Asia-Pacific Journal of Public Health*, *22*(4), 436–450. https://doi.org/10.1177/1010539510370780

Lakew, Y., Reda, A. A., Tamene, H., Benedict, S., & Deribe, K. (2013). Geographical variation and factors influencing modern contraceptive use among married women in Ethiopia: Evidence from a national population based survey. *Reproductive Health*, *10*(52), 1–10. https://doi.org/10.1186/1742-4755-10-52

Lasong, J., Zhang, Y., Gebremedhin, S. A., Opoku, S., Abaidoo, C. S., Mkandawire, T., Zhao, K., & Zhang, H. (2020). Determinants of modern contraceptive use among married women of reproductive age: A cross-sectional study in rural Zambia. *BMJ Open*, *10*(3), 1–10. https://doi.org/10.1136/bmjopen-2019-030980

Lebese, R. T., Maputle, S. M., Ramathuba, D. U., & Khoza, L. B. (2013). Factors influencing the uptake of contraception services by Vatsonga adolescents in rural communities of Vhembe District in Limpopo Province, South Africa. *Health SA Gesondheid*, *18*(1). https://doi.org/10.4102/hsag.v18i1.654

Mahato, P. K., Sheppard, Z. A., van Teijlingen, E., & De Souza, N. (2020). Factors associated with contraceptive use in rural Nepal: Gender and decision-making. *Sexual and Reproductive Healthcare*, *24*(May 2019). https://doi.org/10.1016/j.srhc.2020.100507

Meskele, M., & Mekonnen, W. (2014). Factors affecting women's intention to use long acting and permanent contraceptive methods in Wolaita Zone, Southern Ethiopia: A cross-sectional study. *BMC Women's Health*, *14*(1), 1–9. https://doi.org/10.1186/1472-6874-14-109

Muanda, M. F., Ndongo, G. P., Messina, L. J., & Bertrand, J. T. (2017). Barriers to modern contraceptive use in rural areas in DRC. *Culture, Health and Sexuality*, *19*(9), 1011–1023. https://doi.org/10.1080/13691058.2017.1286690

Muhoza, D. N., & Ruhara, C. M. (2019). Closing the Poor – Rich Gap in Contraceptive Use in Rwanda : Understanding the Underlying Mechanisms. *International Perspectives on Sexual and Reproductive Health*, *45*, 13–23. https://doi.org/10.1363/45e7519

Nadeem, M., Malik, M. I., Anwar, M., & Khurram, S. (2021). Women Decision Making Autonomy as a Facilitating Factor for Contraceptive Use for Family Planning in Pakistan. *Social Indicators Research*, *156*(1), 71–89. https://doi.org/10.1007/s11205-021-02633-7

National Population and Family Planning Board. (2020). *Strategic Plan of National Population and Family Planning Board 2020-2024*.

National Population and Family Planning Board, Statistics Indonesia, Ministry of Health, & ICF. (2018). *Indonesia Demographic and Health Survey 2017*. BKKBN.

Odwe, G., Wado, Y. D., Obare, F., Machiyama, K., & Cleland, J. (2021). Method-specific beliefs and subsequent contraceptive method choice: Results from a longitudinal study in urban and rural Kenya. *PLoS ONE*, *16*(6 June), 1–15. https://doi.org/10.1371/journal.pone.0252977

Ontiri, S., Ndirangu, G., Kabue, M., Biesma, R., Stekelenburg, J., & Ouma, C. (2019). Long-acting

reversible contraception uptake and associated factors among women of reproductive age in rural Kenya. *International Journal of Environmental Research and Public Health*, *16*(9), 1–11. https://doi.org/10.3390/ijerph16091543

Orbeta, A. C. (2005). *Poverty, Fertility Preferences and Family Planning Practice in the Philippines* (PIDS Discussion Paper Series, No. 2005-22).

Peer, N., Morojele, N., & London, L. (2013). Factors associated with contraceptive use in a rural area in Western Cape Province. *South African Medical Journal*, *103*(6), 406–412. https://doi.org/10.7196/SAMJ.6201

Rahman, M. M., Mostofa, M. G., & Hoque, M. A. (2014). Women's household decision-making autonomy and contraceptive behavior among Bangladeshi women. *Sexual and Reproductive Healthcare*, *5*(1), 9–15. https://doi.org/10.1016/j.srhc.2013.12.003

Rios-Zertuche, D., Blanco, L. C., Zúñiga-Brenes, P., Palmisano, E. B., Colombara, D. V., Mokdad, A. H., & Iriarte, E. (2017). Contraceptive knowledge and use among women living in the poorest areas of five Mesoamerican countries. *Contraception*, *95*(6), 549–557. https://doi.org/10.1016/j.contraception.2017.01.005

Schoemaker, J. (2005). Contraceptive use among the poor in Indonesia. *International Family Planning Perspectives*, *31*(3), 106–114. https://doi.org/10.1363/3110605

Sedgh, G., & Hussain, R. (2014). Reasons for Contraceptive Nonuse among Women Having Unmet Need for Contraception in Developing Countries. *Studies in Family Planning*, *45*(2), 151–169. https://doi.org/10.1111/j.1728-4465.2014.00382.x

Shiferaw, S., Spigt, M., Seme, A., Amogne, A., Skrøvseth, S., Desta, S., Radloff, S., Tsui, A., & GeertJan, D. (2017). Does proximity of women to facilities with better choice of contraceptives affect their contraceptive utilization in rural Ethiopia? *PLoS ONE*, *12*(11). https://doi.org/10.1371/journal.pone.0187311

Singh, L. M., Prinja, S., Rai, P., Siddhanta, A., Singh, A. K., Sharma, A., Sharma, V., Rana, S. K., Muneeza, K. F., & Srivastava, A. (2020). Determinants of Modern Contraceptive Use and Unmet Need for Family Planning among the Urban Poor. *Open Journal of Social Sciences*, *8*, 451–473. https://doi.org/10.4236/jss.2020.85031

Teplitskaya, L., Ross, R., & Dutta, A. (2018). *Has Indonesia's National health insurance scheme improved family planning?*

Utomo, B., Sucahya, P. K., Romadlona, N. A., Robertson, A. S., Aryanty, R. I., & Magnani, R. J. (2021). The impact of family planning on maternal mortality in Indonesia: what future contribution can be expected? *Population Health Metrics*, *19*(2), 1–13. https://doi.org/10.1186/s12963-020-00245-w

World Health Organization. (1994). *Mother-Baby Package: Implementing safe motherhood in countries* (p. 114). WHO Press.

Wulifan, J. K., Mazalale, J., Jahn, A., Hien, H., Ilboudo, P. C., Meda, N., Robyn, P. J., Hamadou T, S., Haidara T, O., & de Allegri, M. (2017). Factors associated with contraceptive use among women of reproductive age in Rural Districts of Burkina Faso. *Journal of Health Care for the Poor and Underserved*, *28*(1), 228–247. https://doi.org/10.1353/hpu.2017.0019

Zegeye, B., Ahinkorah, B. O., Idriss-Wheeler, D., Olorunsaiye, C. Z., Adjei, N. K., & Yaya, S. (2021). Modern contraceptive utilization and its associated factors among married women in Senegal: a multilevel analysis. *BMC Public Health*, *21*(1), 1–13. https://doi.org/10.1186/s12889-021-10252-7