JURNAL BIOMETRIKA DAN KEPENDUDUKAN
(Journal of Biometrics and Population)

DETERMINANT FACTORS FOR UNINTENDED PREGNANCY IN BALI PROVINCE

***Putu Ayu Indrayathi[1,2,4], Putu Erma Pradnyani[2,5], Ngakan Putu Anom Harjana[1,2], Luh Putu Sinthya Ulandari[1], Anastasia Septya Titisari[3], Luh Kadek Ratih Swandewi[3]**

[1]Faculty of Medicine, Universitas Udayana, 80234 Denpasar, Bali, Indonesia
[2]Center for Public Health Innovation, Faculty of Medicine, Universitas Udayana, 80234 Denpasar, Bali, Indonesia
[3]National Population and Family Planning Board of Bali Province, 80234 Denpasar, Bali, Indonesia
[4]Doctoral School of Health Science, University of Debrecen, 4032 Debrecen, Hungary
[5]Health Polytechnic Kartini Bali, 80234 Denpasar, Bali, Indonesia
***Corresponding Author** : Putu Ayu Indrayathi ; **Email** : pa_indrayathi@unud.ac.id

Published by *Fakultas Kesehatan Masyarakat Universitas Airlangga*

Keywords:
unintended pregnancy,
women,
fertile age

ABSTRACT

Bali Province has the lowest unmet need achievement, namely 8.1%, meaning that it has a low-value gap between the availability of contraceptive services and the needs of the community. This study analyzed the factors that influence the incidence of unintended pregnancy among childbearing-age women in Bali. This research is a secondary data analysis from the Program Performance and Accountability Survey (PPAS) of the National Population and Family Planning Board in 2019. The variables studied were selected from the PPAS's Women data, with 1,214 samples of married fertile women aged 15-59 years in Bali. Multivariate analysis in the form of a logistic regression test is carried out to estimate factors that affect unintended pregnancy incidence in childbearing-age women in Bali. Factors influencing unintended pregnancy are age and having heard of family planning, understanding birth control, understanding population issues, and having listened to adolescent reproductive health. The multivariate analysis shown that age and having heard of family planning are two factors that significantly influence unintended pregnancy. Two factors that influence unintended pregnancy in Bali are age and having heard about family planning. Therefore, cross-sector engagement is required to provide a family planning program to the targeted fertile women's age found in this research to improve women's exposure to the program.

Kata Kunci:
kehamilan tidak diinginkan,
wanita,
usia subur

ABSTRAK

Provinsi Bali memiliki capaian unmet need paling rendah yaitu 8,1%, artinya Provinsi Bali memiliki nilai kesenjangan yang rendah antara ketersediaan layanan kontrasepsi dengan kebutuhan dari masyarakat. Namun, kehamilan tidak diinginkan (KTD) di Provinsi Bali pada kelompok Wanita Usia Subur (WUS) mengalami peningkatan. Oleh karena itu penelitian ini bertujuan untuk menganalisa faktor-faktor yang berpengaruh pada kejadian KTD di Bali. Penelitian ini merupakan analisis data sekunder dari Survei Kinerja dan Akuntabilitas Program KKBPK (SKAP) tahun 2019 komponen Wanita. Variabel yang diteliti dipilih dari kuesioner Wanita SKAP 2019, dengan karakteristik sampel adalah wanita subur yang sudah menikah dan berusia 15-59 tahun yang ada di Provinsi Bali. Besar sampel berdasarkan pada pengumpulan data Wanita SKAP 2019 di Provinsi Bali sejumlah 1.214. Analisis Multivariat dilakukan dengan Regresi Logistik untuk memperkirakan faktor-faktor yang mempengaruhi kehamilan tidak diinginkan pada kelompok wanita usia subur di Bali.Penelitian ini menemukan bahwa faktor - faktor yang berpengaruh terhadap kehamilan yang tidak diinginkan (KTD) pada WUS di Provinsi Bali, yakni usia dan pernah mendengar keluarga berencana, pengetahuan cara/alat KB, pengetahuan isu kependudukan, pernah mendengar tentang kesehatan reproduksi remaja. Selanjutnya dari analisis multivariat diketahui bahwa usia WUS dan pernah mendengar tentang keluarga berencana adalah dua faktor yang secara statistik memiliki pengaruh secara signifikan pada kejadian KTD. Oleh karena itu diperlukan keterlibatan lintas sektor dalam proses pemberian informasi mengenai keluarga berencana dengan menyesuaikan pada karakteristik usia WUS yang menjadi target dengan metode yang sesuai dengan kategori usia untuk meningkatkan cakupan WUS yang memperoleh informasi tentang keluarga berencana.

Received in 09 February 2021 ; Accepted in 31 May 2021 ; p-ISSN 2302–707X - e-ISSN 2540–8828 ; **DOI:** https://doi.org/10.20473/jbk.v11i1.2022.36-44

Cite this as : Indrayathi PA, Pradnyani PE, Harjana NPA, Ulandari LPS, Titisari AS, Swandewi LKR. Determinant Factors for Unintended Pregnancy in Bali Province. J Biometrika dan Kependud [Internet]. 2022;11(1):36–44. Available from: https://doi.org/10.20473/jbk.v11i1.2022.36-44

INTRODUCTION

The world's population continues to increase every year. In 2019, the world's population was reported at 7.7 billion, with an average population growth of 1.1% from 2010 to 2019 (1). As the fourth country with the largest population globally after China, India, and the United States, Indonesia's population has also increased. Based on the 2010 population census results, Indonesia's population is 237,641,326 people (2). The rapid population growth is not accompanied by an increase in the population's welfare, as indicated by the Human Development Index (HDI) report in 2018. The 2018 Indonesia's HDI index (0.707) was below other ASEAN countries, such as Singapore, Malaysia, and Brunei Darussalam (3).

The government has made various efforts to control population growth, one of which is through the Family Planning Program under the auspices of the National Population and Family Planning Agency (4). This program has caused Indonesia's population growth rate to decline to reach 1.43% from 2010-to 2015 (5). When viewed from the national Total Fertility Rate (TFR), there was a decrease in TFR value based on Indonesia Demographic Health Survey 2017 results of 2.4 children per woman to 2.38 children per woman based on Program Performance and Accountability Survey (PPAS) 2018 results (6). However, based on the results of PPAS 2019, the TFR value has increased to 2.45 children per woman, and this value has not reached the national target of 2.28 children per woman (7).

The unmet need for contraception can cause an increase in the total fertility rate. When referring to the 2019 PPAS results, the national unmet need achievement reached 12%, and this value is much higher than the national unmet need target of 9.9%. This high unmet need can lead to an increased risk of pregnancy, especially unintended pregnancies (8,9). Some studies have found a significant relationship between the percentage of unmet needs and the occurrence of unintended pregnancies (10–13).

Unintended pregnancy is one of the global problems that still often occurs. Based on the Indonesian Demographic Health Survey report, it shows that the incidence of unintended pregnancy has increased, where in 2012 the incidence of unintended pregnancy reached 13.6%, while in 2015 it became 16% (14). Based on the results of PPAS 2019, the percentage of unintended pregnancies in Indonesia reaches 17.5%. This result increased from the 2018 PPAS result, which was 14.9% (15). Unintended pregnancies usually occur at reproductive age. Several factors cause unintended pregnancies, including lack of knowledge about reproductive health, improper and consistent use of contraceptives, failed contraceptives, or not using contraceptives (16).

Unintended pregnancies can also be caused by unhealthy behavior, a free lifestyle, acts of rape, irresponsible partners, or unstable relationships with partners. The incidence of unwanted pregnancy is also closely related to the sociodemographic conditions of the family, culture, and beliefs in society (17).

Bali Province has a low gap between the availability of contraceptive services and the community's needs, with the lowest unmet need achievement of 8.1%. Compared to PPAS 2018, the percentage of unmet needs in Bali Province is 13.0% (15). It indicates that access to contraceptive services has increased compared to the previous year. Despite this, different phenomena occur in the trend of unintended cases of pregnancy.

Unintended pregnancies in Bali Province in the CAW group (15-59 years) were 14.2% (PPAS 2018) and increased to 17.6% (PPAS 2019). The percentage of PPAS 2019 results is still above the national achievement, 17.5% (7). Based on these results, this study is intended to analyze the factors that influence the incidence of unintended pregnancy in women of childbearing age (15-49 years) in Bali Province.

METHODS

Data

This study analyzes secondary data from the women components of the Program Performance and Accountability Survey (PPAS) in 2019. The Population Program Performance and Accountability Survey is an annual national survey conducted by the National Population and Family Planning Board. This survey is designed to represent each province to provide an overview of the estimated parameters of the province and is carried out to obtain information about the achievements of the Population, Family Planning, and Family Development Program. The variables studied were selected from the

PPAS 2019 Women's questionnaire, with sample characteristics of married fertile women aged between 15 and 59 years old in Bali Province. This research design uses a cross-sectional study design, which is research conducted at a particular time to measure events simultaneously. The sampling technique was stratified multistage sampling. The total sample that was selected and analyzed in each cluster in Bali Province of 1,214 women of childbearing age.

Variables

The variables to be examined in this study consist of independent and dependent variables. The dependent variable tied to this study is unintended pregnancies and independent variables consisted of socio-demographic characteristics, having heard of family planning, knowledge of ways/tools of family planning, knowledge of population issues, having heard of adolescent reproductive health, and the ideal number of children. Unintended pregnancies mean the condition of a woman of childbearing age who is pregnant at the birth of the last child she wants (2 years or more) or is unwanted anymore.

Socio-demographic characteristics consisted of the type of occupation, age, and education. Heard of family planning and had heard of adolescent reproductive health were categorized into two parts namely never and ever. The ideal number of children was categorized into two parts namely 1 to 2 children and more than 2 children.

Knowledge of ways/tools of family planning consisted of have heard about the methods/means of contraception namely female sterilization/tubectomy, male sterilization/vasectomy, implants, IUD/spiral, injections, pills, male condoms, periodic abstinence, and interrupted intercourse, the emergency contraceptive method, female condoms, intravag/diaphragm, bead bracelet, and other methods. This knowledge of ways/tools family planning is given a score of 1 if heard of ways/tools family planning and 0 if never heard. The knowledge of ways/tools family planning variables were categorized into two parts based on their median namely know ≤7 ways/tools family planning and know >7 ways/tools family planning.

Knowledge of population issues consisted of hearing about population explosion, migration, transmigration, urbanization, birth / fertility, death / mortality, unemployment, employment, environmental damage, energy crisis, moral/social crisis, family planning, health adolescent reproduction, and demographic bonus. This knowledge of population issues is given a score of one if heard of population issues and 0 if never heard. The knowledge of population issues variables was categorized into two parts based on their median namely know at least ≤7 issues and know >7 issues.

Statistical Analysis

The selected variables are then analyzed in several stages, namely univariate, bivariate, and multivariate analysis. Bivariate analysis using *Chi-square* test and the *Fisher Exact*. Multivariate analysis in the form of a logistic regression test with the entering method is carried out to estimate factors that affect unintended pregnancy incidence in childbearing-age women in Bali.

Ethics Statement

This research has been granted an ethics license No. 1633/UN 14.2.2.VII.14/LT/2020 from the Research Ethics Commission of the Faculty of Medicine, Udayana University/Central Public Hospital (RSUP) of Sanglah Denpasar.

RESULTS

Based on the 2019 survey (PPAS), the number of respondents of women of childbearing age involved was 1,214 people. Of the respondents engaged in the study, most were between 31 and 40 years old. The last education level was primary education (elementary, junior high, high school). When viewed from work, most respondents were not working/housewives, namely 368 people (30.31%) (Table 1).

The distribution of unintended pregnancies based on the socio-demographic characteristics of respondents can be seen in Table 2. The *Chi-square* test and the Fisher Exact Test were conducted to determine the relationship between unintended pregnancy events and socio-demographic characteristics. The results showed that four variables have a relationship with an unintended pregnancy, namely age category (p=0.011), having heard of

family planning (p=0.000), knowledge of family plan program (p=0.022), and having heard of adolescent reproductive health (p=0.000). In comparison, other variables have no relationship because they have a p>0.05.

Based on the age category, most respondents who want the last child pregnancy aged between 31–40 are 38.60%. Meanwhile, most respondents who did not wish to have a last-child pregnancy were also aged between 31–40 years, 39.60%. Also, among respondents who wanted the last child pregnancy, most had heard of family planning, which is as much as 76.02%. Meanwhile, most respondents who were unwilling to have the last child had also heard of family planning (92.01%).

When viewed from knowledge related to the ways/tools of family planning, most respondents who want the last child pregnancy know fewer than seven ways/tools of family planning, which is as much as 64.33%. While in the group of respondents who do not want the last child, most also know fewer than seven family plan program tools, which is as much as 78.14%. Besides, in the group of respondents who wanted the last child pregnancy, most stated that they had heard of adolescent reproductive health. So did respondents who did not wish for a last-child pregnancy.

The bivariate analysis results through *Chi-square* and *Fisher Exact Test* continued with multivariate tests through logistic regression tests. Therefore, free variables produce a value of p<0.25, followed by a logistic regression test. Variables with a value of p>0.25 are excluded in the logistic regression test, i.e., age group, education, have heard of disaster families, knowledge related to family plan program tools, understanding of population issues, and have heard about adolescent reproductive health. In contrast, five free variables are not included in the logistic regression, namely, variables of marital status, education, insurance ownership, and preference for the ideal number of children.

Table 3 shows the logistic regression test results of the enter method, namely, determining the factors that influence unintended pregnancy incidence. The results showed that age and hearing about family planning were the most influential factors in unintended pregnancies.

Table 1. Socio-Demographic Characteristics of Childbearing-Age Women in Bali Province

Variable	(n=1,214) Frequency (%)
Type of Occupation	
Not Working	368 (30.31)
Farmer/fishermen/daily workers	265 (21.83)
Private employee	201 (16.56)
Entrepreneur/trader	330 (27.18)
Civil Servant/Army/Police/Employee of state-owned enterprises	50 (4.12)
Age	
≤ 20 years	13 (1.07)
21 – 30 years	267 (22.73)
31 – 40 years	479 (39.46)
>41 years	446 (36.74)
Education	
Never went to school	28 (2.31)
Primary education	1026 (84.51)
University	160 (13.18)

Respondents who were >40 years old tended to have a high chance of having an unintended last-child pregnancy compared to women of childbearing age ≤20 years old. Also, respondents who had never heard of family planning were less likely to experience an unintended pregnancy than respondents who claimed to have heard of family planning.

DISCUSSION

The issue of unintended pregnancies (UP) is still a global problem that harms women because it contributes to 700,000 maternal deaths each year (18). Each year an estimated 80 million women experience the incidence of unintended pregnancies. Unintended pregnancy is one of the most

essential and essential issues that need attention, especially in developing countries (17). In this study, the bivariate analysis found that age, have heard about family planning, knowledge of birth control, and have heard of adolescent reproductive health are essential things that can explain the existence of unintended pregnancy in childbearing-age women in Bali. Multivariate analysis also supports the findings of the bivariate analysis and shows different effect patterns on other variables.

Table 2. Respondent Distribution of Unintended Pregnancies Based on Respondents' Socio-Demographic Characteristics

Variable	Unintended Pregnancy		*p value*
	Yes	No	
	F (%)	F (%)	
Age			0.011[a]
≤ 20 years	6 (3.51)	7 (0.67)	
21 – 30 years	39 (22.81)	237 (22.72)	
31 – 40 years	66 (38.60)	413 (39.60)	
>41 years	60 (35.09)	386 (37.01)	
Education			0.182[a]
Never went to school	7 (4.09)	21 (2.01)	
Primary education	145 (84.80)	881 (84.47)	
University	19 (11.11)	141 (13.52)	
Type of Occupation			0.403[a]
Not Working	53 (30.99)	315 (30.20)	
Farmer/fishermen/daily workers	46 (26.90)	219 (21.00)	
Private employee	23 (13.45)	178 (17.07)	
Entrepreneur/trader	43 (25.15)	287 (27.52)	
Civil Servant/Army/Police/Employee of state-owned enterprises	43 (2.51)	44 (4.22)	
Have heard of family planning			0.000[a]
Never	41 (23.98)	74 (7.09)	
Ever	130 (76.02)	969 (92.91)	
Knowledge of ways/tools for family planning			0.022[a]
Know≤7	110 (64.33)	760 (72.87)	
Know>7	61 (35.67)	283 (27.13)	
Knowledge of population issues			0.073[a]
Know ≤7	123 (71.93)	815 (78.14)	
Know >7	48 (28.07)	228 (21.86)	
Had heard of adolescent reproductive health			0.000[a]
Never	36 (21.05)	85 (8.15)	
Ever	135 (78.95)	958 (91.85)	
The ideal number of children			0.954[a]
1 to 2 children	118 (69.01)	722 (69.22)	
More than 2 children	53 (30.99)	321 (30.78)	

Note: [a] *Chi-square* test, [b] Fisher exact test (α=0.05)

In multivariate analysis, childbearing age and having heard of family planning are two factors that statistically significantly influence unintended pregnancy events. A study from Nepal found that not only one but many factors influenced Nepal's high unintended pregnancy (19). Other studies have also found that many factors play a role in the high number of unintended pregnancies: poverty, stigma from society in women who are pregnant out of wedlock, desire to stay in school/work, lack of support from spouses, low access to family planning programs, discontinuation of contraceptive use due to supply problems and methods of contraception, lack of use of contraceptives due to concerns about side

Table 3. Distribution of Factors Affecting Unintended Pregnancy

Variable	Unintended Pregnancy			
	B	**OR**	**95% CI**	***p value***
Age				
≤ 20 years	Reff	Reff		
21 – 30 years	1.76	5.86	1.67-16.32	0.003
31 – 40 years	1.80	6.08	1.75-16.45	0.002
>41 years	1.88	6.60	1.80-16.97	0.001
Education				
Never went to school	-0.49	0.61	0.21-1.83	0.380
Primary education	-0.07	0.93	0.55-1.58	0.799
University		Reff		
Have heard of family planning				
Never	-1.32	0.26	0.15-0.48	0.000
Ever		Reff		
Knowledge of ways/tools for family planning				
Know≤7	0.29	1.34	0.85-2.09	0.200
Know>7		Reff		
Knowledge of population issues				
Know ≤7	-0.08	0.93	0.61-1.39	0.713
Know >7		Reff		
Had heard of adolescent reproductive health				
Never	-0.46	0.63	0.35-1.12	0.117
Ever		Reff		

effects, minimum knowledge of pregnancy risk, absence of support from spouses for contraceptive use, difficulty accessing contraceptive services, and unexpected life changes (e.g., divorce, unemployment, or illness) (20–22).

The multivariate analysis results showed that respondents who were over 40 years old tended to have a high chance of having an unintended last-child pregnancy compared to women of childbearing age who were ≤20 years old. The high rate of unintended pregnancies, especially the last child in the age of >31, is likely due to a decrease in the percentage of contraceptive use. A study found that unintended pregnancies in the age group 40 years and older can be due to the decline in contraceptives. The group's perception is that women who have entered menopause have a lesser chance of pregnancy (23). Similarly, it was found in studies in developing countries that unintended pregnancies in couples who no longer want children can be caused by failure to use contraceptives or not using contraceptives (24,25).

The bivariate test results on cross-tabulation showed that respondents who did not want the last-child pregnancy were mostly aged 31 years. Similarly, childbearing age has a positive effect on the occurrence of unintended pregnancy in Nepal. This study's results are also following the results of research which state that age is one factor that can be used to predict UP (26).

The study also found that unintended pregnancies in women of childbearing age are influenced by/not hearing about family planning. In the results of the multivariate analysis obtained, it is known that the chances of unintended pregnancy in women of childbearing age who have never heard of family planning are smaller than in those who have heard of family planning. Women of childbearing age who have never heard of family planning is a preventive factor against unwanted pregnancies; this can occur because there is no exposure to sufficient numbers of children or the distance of birth of children in the family so that, if pregnancy occurs, it will be accepted, but this is very risky related to health reproduction (27).

It can also be seen clearly in bivariate analysis and cross-tabulation results that as many as 92.01% of childbearing age women have heard of family planning but do not want their last child (28). The number of childbearing age women who have heard of the family program is much more than those who have not.

The occurrence of unintended pregnancy increases the risk of low birth weight, premature labor, unsafe abortion, and an indicator of women's reproductive health and an indicator of a childbearing-age women's right to give birth (29). As many as 33 million of these unintended pregnancies ended in unplanned births, spontaneous abortion (11 million), and abortions (41 million). Unintended pregnancies in developed countries (29%) are higher than in developing countries (20%) (20).

CONCLUSIONS AND SUGGESTIONS

Conclusion

This study found that age, having heard about family planning, knowledge of birth control, and having heard of adolescent reproductive health are essential things that can explain the existence of unintended pregnancy in childbearing-age women in Bali. Childbearing age and having heard of family planning are two factors that statistically significantly influence unintended pregnancy events. Respondents who were >40 years old tended to have a high chance of having an unintended last-child pregnancy compared to women of childbearing age ≤20 years old. Also, respondents who had never heard of family planning were less likely to experience an unintended pregnancy than respondents who claimed to have heard of family planning. This can occur because there is no exposure to sufficient numbers of children or distance of birth of children in the family so that if a pregnancy occurs, it will be accepted, but it is very risky related to reproductive health.

Therefore, the importance of education for women of childbearing age related to pregnancy can still occur before the menopause phase. If women of childbearing age want to postpone pregnancy or don't want to have children, they should still use contraception. So that later children are born according to their parents' expectations.

Suggestion

Based on this study's results, they can be used as a recommendation material by local governments and other relevant agencies such as the Department of Health and National Population and Family Planning Board in Bali Province to understand the occurrence of unintended pregnancy better. Cross-sector collaboration is urgently needed to provide information about family planning by adjusting to the age characteristics with methods corresponding to the age category to increase women's coverage of information about family planning and the use of contraception. It is necessary to do further research related to the factors that influence the occurrence of unwanted pregnancy in women using qualitative methods so that researchers can dig deeper information regarding these factors and other factors from the perspective of childbearing-age women.

ACKNOWLEDGMENT

The researchers would like to thank the National Population and Family Planning Board (BKKBN) Bali Province, Indonesia and the Center for Public Health Innovation for permitting us to conduct this research. The researchers would also like to thank all parties who have contributed to the accomplishment of this article.

REFERENCES

1. United Nations. World Population Prospects 2019. Department of Economic and Social Affairs. World Population Prospects 2019. New York: United Nations; 2019. Available from: https://population.un.org/wpp/Publications/Files/WPP2019_Highlights.pdf
2. National Team for the Acceleration of Poverty Reduction (TN2PK). Informasi Tematik Sensus Penduduk 2010. National Team for the Acceleration of Poverty Reduction (TN2PK). 2010. Available from: http://103.76.16.8/id/artikel/informasi-tematik-sensus-penduduk-2010/
3. UNDP. Human Development Report 2019: Beyond Income, Beyond Averages, Beyond Today: Inequalities in Human Development in The 21st Century. United Nations Development Program. New York: United Nations Development Programme; 2019. 352 p. Available from: https://reliefweb.int/report/world/human-development-report-2019-beyond-

income-beyond-averages-beyond-today-inequalities
4. Central Bureau of Statistics. Penduduk Indonesia Menurut Provinsi dan Kabupaten/Kota : Sensus Penduduk 2010. Jakarta; 2010. Available from: https://www.bps.go.id
5. Central Bureau of Statistics. Profil Penduduk Indonesia Hasil Supas 2015. Central Bureau of Statistics. Jakarta; 2015. Available from: https://www.bps.go.id
6. Adioetomo, S.M., and Samosir OB. Dasar-Dasar Demografi. Adioetomo, Sri Moertiningsih OBS, editor. Jakarta: Salemba Empat; 2010. 2010 p. Available from: https://scholar.google.co.id/
7. National Population and Family Planning Agency. Survei Kinerja dan Akuntabilitas Survei Program KKBPK (SKAP) Keluarga. National Population and Family Planning Agency. 2019. Available from: https://www.bkkbn.go.id/
8. Stover J, Winfrey W. The Effects of Family Planning and Other Factors on Fertility, Abortion, Miscarriage, and Stillbirths in The Spectrum Model. BMC Public Health. 2017;17(Suppl 4):43–50. https://doi.org/10.1186/s12889-017-4740-7
9. Sedgh G, Ashford LS, Hussain R. Unmet Need for Contraception in Developing Countries: Examining Women's Reasons for Not Using a Method. Guttmacher Institute. 2016. Available from: https://www.guttmacher.org/report/unmet-need-for-contraception-in-developing-countries
10. Tiyas AH, Anwar M, Nawangsih UHE. Psychosocial Barriers of Unmet Need Among Woman of Reproductive Age. SEAJOM Southeast Asia J Midwifery. 2018;4(2):46–58. https://doi.org/10.36749/seajom.v4i2.29
11. Sudha V., Vrushabhendra H.N., Srikanth S. and SE. Unmet Need For Contraception Among Urban Women: A Cross Sectional Study In Puducherry. Int J Community Med Public Heal. 2017;4(5):1494–9. http://dx.doi.org/10.18203/2394-6040.ijcmph20171570
12. Amoateng AY, Kalule-Sabiti I, Arkaah YJ. The Effect of Socio-Demographic Factors on Risky-Sexual Behaviours of Adolescents in The North West Province of South Africa. African Popul Stud. 2014;28(1):487–98. https://doi.org/10.11564/28-1-502
13. Kelodjoue S. Trends and Determinants of Unmet Need for Family Planning in Cameroon: The Role of Socio-Cultural Context. Social Study. 2015;5(1):39–52. Available from: http://www.davidpublisher.com/Public/uploads/Contribute/55598d2889f8c.pdf
14. Performance Monitoring for Action P. Pma2016indonesia-round-2-indicators. 2016. Available from: https://www.pmadata.org/pma2016indonesia-round-2-indicators
15. National Population and Family Planning Agency. Survei Kinerja dan Akuntabilitas Program KKBPK (SKAP) Remaja Tahun 2018. 2018. Available from: https://archive.org/details/2018SKAPREMAJA
16. Finer, L.B. and Zolna MR. Unintended Pregnancy in The United States: Incidence and Disparities, 2006. Contracept An Int Reprod Heal J. 2011;84(5):478–85. https://doi.org/10.1016/j.contraception.2011.07.013
17. Saptarini I dan S. Determinan Kehamilan Tidak Diinginkan di Indonesia (Analisis Data Sekunder Riskesdas 2013). J Kesehat Reproduksi. 2016;7(1):15–24. http://dx.doi.org/10.22435/kespro.v7i1.5096.15-24
18. Anggraini K, Wratsangka R, Bantas K, Fikawati S. Faktor-Faktor yang Berhubungan dengan Kehamilan Tidak Diinginkan di Indonesia. Promot J Kesehat Masy. 2018;8(1):27–37. https://doi.org/10.31934/promotif.v8i1.227
19. Adhikari R, Soonthorndhada K, Prasartkul P. Correlates of Unintended Pregnancy Among Currently Pregnant Married Women in Nepal. BMC Int Health Hum Rights. 2009;9(1):1–10. https://doi.org/10.1186/1472-698X-9-17

20. Singh, S., Sedgh, G., and Hussain R. Unintended Pregnancy: Worldwide Levels, Trends, and Outcomes. Stud Fam Plann. 2010;41(4):241–50. https://doi.org/10.1111/j.1728-4465.2010.00250.x
21. Goossens, Van Den Branden Y, Van Der Sluys L, Delbaere I, Van Hecke A, Verhaeghe S, et al. The Prevalence of Unplanned Pregnancy Ending in Birth, Associated Factors, and Health Outcomes. Hum Reprod. 2016;31(12):2821–33. https://doi.org/10.1093/humrep/dew266
22. Sarkar P. Unintended Pregnancies in Bangladesh: Levels and Correlates. J Mod Math Stat. 2009;3(4):78–81. Available from: https://medwelljournals.com/abstract/?doi=jmmstat.2009.78.81
23. Samosir OB, Kiting AS, Aninditya F. Role of Information and Communication Technology and Women's Empowerment in Contraceptive Discontinuation in Indonesia. J Prev Med Public Heal. 2020;53(2):117–25. https://doi.org/10.3961/jpmph.19.300
24. Erol N, Durusoy R. Unintended Pregnancy and Prenatal Care : A Study from a Maternity Hospital in Turkey. Eur J Contracept Reprod Heal Care. 2010;15(4):290–300. https://doi.org/10.3109/13625187.2010.500424
25. Yazdkhasti M, Pourreza A, Pirak A, Abdi F. Unintended Pregnancy and Its Adverse Social and Economic Consequences on Health System: A Narrative Review Article. Iran J Public Health. 2015;44(1):12–21. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4449999/
26. Supriyatna, Dewi FST, Wilopo SA. Intensi Fertilitas Wanita Usia Subur dan Kehamilan Tidak Diinginkan di Indonesia : Analisis Data Performance Monitoring and Accountability 2020. Ber Kedokt Masy. 2018;34(5):185–93. Available from: https://journal.ugm.ac.id/bkm/article/view/17802
27. Soleha S. Studi tentang Dampak Program Keluarga Berencana di Desa Bangun Mulya Kabupaten Penajam Paser Utara. eJournal Ilmu Pemerintah. 2016;4(1):39–52. Available from: https://ejournal.ip.fisip-unmul.ac.id/site/?p=1812
28. Sumartini S, Indriani D. Pengaruh Keinginan Pasangan Usia Subur (PUS) dalam Penggunaan Metode Kontrasepsi Jangka Panjang. J Biometrika dan Kependud. 2016;5(1):27–34. http://dx.doi.org/10.20473/jbk.v5i1.2016.27-34
29. Paul M, Näsström SB, Klingberg-Allvin M, Kiggundu C, Larsson EC. Healthcare Providers Balancing Norms and Practice: Challenges and Opportunities in Providing Contraceptive Counselling to Young People in Uganda - A Qualitative Study. Glob Health Action. 2016;9(1):1–9. https://doi.org/10.3402/gha.v9.30283