

# Factors Associated with Unmet Need for Family Planning among Young Women in the Philippines

Angelica Anne E. Latorre

Author's email address: aelatorre@up.edu.ph

Department of Epidemiology and Biostatistics, College of Public Health, University of the Philippines Manila, 1000

## RESEARCH ARTICLE

### Abstract

**Background:** The sociodemographic shift in sexual initiation, low contraceptive and family planning use pose a threat in the reproductive health and well-being of young people. Despite the rise in sexual activity among young people before reaching the age of 18, the prevalence of contraceptive use remains low while the unmet need for family planning among married and sexually active women is consistently highest among women 15-19 years old compared to any other age group.

**Objective:** The observed trend in the reproductive health practices of young people, as well as the paucity of literature on adolescent reproductive health, warrant the need for studies that focus on family planning and sexual behavior of young people. This study aimed to determine the factors associated with the unmet need for family planning among sexually active women aged 15-19 years in the Philippines.

**Methodology:** This study used the data from the National Demographic Health Survey 2017. The analysis included only the fecund and sexually active women aged 15-19 years old. Logistic regression was performed in order to determine the significant predictors of unmet need for family planning among young women.

**Results:** Sixty-eight percent of women reported secondary education as the highest level of education attended. Knowledge on modern family planning method is high at 99%, while the proportion of women with knowledge on ovulatory cycle and knowledge on possibility of getting pregnant after giving birth and before the return of menstrual cycle are 21% and 61%, respectively. The proportion of women who responded that their husbands/partners desire the same number of children as them is 68%. Multiple logistic regression and stepwise selection procedure showed that a husband's fertility preference is a significant predictor of having an unmet need.

**Conclusion:** Addressing the issue of low family planning and contraceptive use among young women in the Philippines requires concerted efforts that cater to the needs of both men and women in this age group. The consistently low family planning practice among young people despite the overall improvement in the proportion of family planning users among women indicates the need for variability in strategies that target young and older age groups. Further research should be conducted in order to gain better understanding of the determinants of unmet need for family planning among young people.

**Keywords:** *unmet need for family planning, young women, adolescent reproductive health, teenage contraceptive use, family planning services*

## Introduction

Reproductive health choices of adolescents have a significant impact on their transition to adulthood. Early pregnancy is associated with adverse health outcomes both for young women and their children [1]. Rates of pre-term birth, low birth weight, and child-mortality are also high among children born to young women [2,3].

Besides health risks, early child-bearing has negative social consequences. Recent data suggest an association between

intimate partner violence and early pregnancy. In terms of education, the World Bank estimates that 5% to 33% of women aged 15 to 24 years old drop out of school due to early pregnancy or marriage [1,4]. Low educational attainment often leads to having fewer skills, limited employment opportunities, and reduced lifetime earnings which has an economic cost as countries lose out on income that women would have earned if not for early marriage and child-bearing [4,5].

Given the possible effects of health during adolescence to succeeding life stages and its cumulative effects on

future generations, adolescent health and development has received renewed attention worldwide. The importance of ensuring access to high-quality sexual and reproductive health services for adolescents as well as the creation of a supportive environment for young parents, was highlighted in the Global Strategy for Women's, Children's, and Adolescents' Health (2016-2030) [6]. Likewise, empowering young women to achieve their right to make voluntary and informed choices regarding contraceptive use was recognized as a crucial approach in attaining the Family Planning 2020 goal of extending family planning services to an additional 120 million women and girls by 2020 [7].

In the Philippines, The Responsible Parenthood and Reproductive Health Act of 2012 was enacted to guarantee universal access to safe, non-abortifacient, effective, legal, affordable, and quality reproductive health care services [8]. This mandated the provision of comprehensive sexuality education to adolescents through the Department of Education, and it served as the legal framework for the implementation of Adolescent Development and Reproductive Health Program. Currently, adolescent reproductive health is being integrated to existing programs through the creation of adolescent-friendly health services and social delivery network (SDNs) involving various sectors such as schools, local government, hospitals, and non-government organizations [9].

Despite government efforts to address the health challenges that beset the youth, the rise in sexual activity among young people and consistently low prevalence of contraceptive use in this age group continue to pose a threat to the reproductive health of young Filipinos. The proportion of young people engaging in sexual activity before the age of 18 years has increased from 13% in 1994 to 23% in 2013 while the prevalence of pre-marital sex has nearly doubled from 17.8% in 1994 to 32.2% in 2013 [11]. A rise in the proportion of teenage pregnancy from 6.5% in 1993 to 8.6% in 2017 was also reported among women 15-19 years old. The fertility rate across all ages declined markedly from 1973 to 2017 except among women aged 15-19 years wherein birth rate remained steady and almost constant from 56 per 1000 in 1973 to 57 per 1000 in 2013 [11,12]. This birth rate is higher than the average rate of 40 per 1000 and 15 per 1000 in South East Asia and Western Pacific Region, respectively [3,12,13].

Although there is an almost universal knowledge on modern family planning method among young women,

contraceptive use among this age group remains the lowest in the country. Among young women of age 15-19 years old, 99.3% reported knowing at least one of the modern contraceptive methods [12]. However, recent survey results show that knowledge does not automatically translate to contraceptive use. In 2017, the proportion of contraceptive users among currently married women who are 15-49 years old was found to be 54.3%, while among the 15-19 year-old age group the prevalence is lower at 35.8% [12].

Besides the contraceptive prevalence rate, another important family planning indicator that shows the disparity in the level of provision of women's reproductive health needs across different age groups is the unmet need. The unmet need for family planning is an index that accounts for both the reproductive behavior and fertility preference of women. This allows assessment of women's ability to achieve the desired fertility and estimates the need for family planning services [14]. It is defined as the proportion of women who are not using contraceptives but have the desire to stop childbearing or postpone their next pregnancy for two or more years [14]. In 2013, the unmet need for family planning among young women in the Philippines was recorded at 28.7%. This is 1.6 times higher than the total unmet need for women from all age groups which was reported at 17.5% [11]. The same scenario was seen in 2017 wherein the total unmet need for family planning among women 15-49 years old was at 16.7% while among women who are 15-19 years old, the proportion was 27.9% [12]. The same trend was also reported in MacQuarrie's study where it was found that an estimated 33 million women age 15-24 years old have unmet need for family planning in sixty-one countries including the Philippines, and among those who are married, unmet need is highest among women aged 15 to 16 years with proportions generally decreasing as age group increases [14].

Given the stark contrast between the overall trend and the observed pattern of contraceptive and family planning use among young women, as well as the sociodemographic shift in sexual initiation, it is evident that there is a gap in the reproductive health programs, particularly those that are intended to cater to the needs of young people. Identifying the factors that contribute to having unmet need for family planning among young women is necessary for the development of policies and interventions that will enable young women and their families to achieve their desired fertility. This study is the first paper to determine the factors associated with unmet need among young, sexually active women in the Philippines.

## Methodology

The study is a secondary analysis of the data set of the 2017 National Demographic Health Survey (NDHS) with permission from the Demographic Health Surveys (DHS) Program. The recode dataset obtained from the DHS Program contains a standardized or converted form of the original raw data that was obtained using the DHS Model Questionnaire in the survey. The survey used a two-stage stratified sampling design to obtain a representative sample of households. The first stage involved a systematic selection of primary sampling units (PSU), which can either be a *barangay*, a portion of a large *barangay*, or two or more adjacent small *barangays*, followed by systematic random sampling of households from each PSU. A total of 25,074 women participated in the survey. However, this paper focuses on women aged 15-19 years old who are fecund and are considered sexually active based on the respondents' report of sexual activity within the last 30 days at the time of survey, which comprise a sample of 503 women.

The outcome in this study is the unmet need for family planning while the predictors include personal factors such as the respondent's educational achievement, area of residence, knowledge on ovulatory cycle, knowledge of the possibility of pregnancy after giving birth and before period, knowledge on contraceptive methods, age of sexual initiation, and interaction with a health worker. Besides personal factors, variables that pertain to the characteristics of the husbands of currently married women or and live-in partners or boyfriends of those unmarried, were also considered as possible determinants of the unmet need for family planning. These include fertility preference, educational attainment, occupation, and health decision-making. The definition of all the variables in the study is summarized in Table 1.

Descriptive characteristics of women were determined. Multiple logistic regression was performed and stepwise selection was used in order to determine the significant predictors of unmet need among young Filipino women. Survey weights were applied to the results to achieve representativeness of estimates of indicators and to account for both non-response and complexity of the survey design.

## Results

The characteristics of young women are summarized in Table 2. Of the young women included in the study, 30.7%

were found to have an unmet need for family planning while the remaining 69.3% were classified as having met or no unmet need. The distribution by the type of residence among women with met or no unmet need and those with unmet need are comparable. The proportion of women living in rural area are 61.8% and 55.7% among those with met and no unmet need, and those with unmet need, respectively. The group of women living in an urban area has a higher percentage of unmet need for family planning than those living in a rural area.

Majority (68.4%) of women reported secondary education as their highest level of education attended. Seventy-nine percent of women with unmet need for family planning achieved secondary education while among those with met or no unmet need, the proportion is lower at 63.7%. On the other hand, the group with met or no unmet need has higher percentage of women who attended higher level than secondary education. In general, the proportion increased with the level of education but an opposite pattern was observed from secondary to higher level.

Knowledge on the timing of ovulation, contraceptive method, and the possibility of conceiving during the interval between giving birth and the return of menstrual period are variables related to the respondents' reproductive health knowledge. Although the differences in the proportions are not significant, descriptive statistics show that the group of women with met or no unmet need has higher proportions in all of the three variables. In addition, the percentage with interaction with a health worker within the past 12 months is higher among those with met or no unmet need.

The mean age of sexual initiation is 16.2 years among women with met or no unmet need, while the average age of first sexual intercourse among those with unmet need is 16.4 years. On the average, young women in both groups have approximately one child ever born.

The trend observed in the distribution of young women with no unmet need is similar to those with unmet need. The proportion of women decrease as classification of wealth quintile increases.

Half (50%) of the respondents in both groups responded that making decisions regarding their own health is mostly done jointly with their husbands or partners. The proportion of women who usually decide on their own regarding matters related to their health is also high with 44.0% of those with no unmet need and 47.8% of those with unmet need.

**Table 1.** Operational definition of variables

Variables	Definition
Unmet need for family planning	<p>It is defined as non-use of family planning despite a woman's desire to delay or stop childbearing. These are pregnant or postpartum women who said that they wanted their current pregnancy or last birth to occur later, or those whose current pregnancy or last birth was unwanted. Those who are neither pregnant or postpartum amenorrheic but no longer want to have children or would want to wait two or more years for their next birth. Also categorized as having unmet need for family planning include those who are undecided about the timing of their next birth; those undecided whether to have another child; women who are currently using contraceptives either for limiting or spacing.</p> <p>Meanwhile, women who responded that their current pregnancy or last birth was wanted (those who are pregnant or postpartum amenorrheic at the time of survey) and those who want a child within 2 years (but not pregnant or not postpartum amenorrheic) are classified under the met or no unmet need category.</p>
Educational attainment	<p>It pertains to the respondent's highest educational attainment and the number of years spent in the identified level. This was determined through the following questions: 1.) "What is the highest level of school you attended: primary, secondary, or higher?"; and, 2.) "What is the highest [GRADE/FORM/YEAR] you completed at that level?". Those who had complete and incomplete primary education were classified under primary. This same categorization was applied for secondary and higher education while those who never attended school were classified as no education.</p>
Area of residence	<p>It refers to <i>de facto</i> type of residence and is classified into rural or urban. The categorization used is based on whether the sample point or cluster was defined as rural or urban. Urban areas are classified into large cities, (capital cities and cities with over 1 million population), small cities (population over 50,000), and towns (other urban areas), while all rural areas are assumed to be countryside.</p>
Knowledge on ovulatory cycle	<p>This is based on the response to the following questions: (1) "From one menstrual period to the next, are there certain days when a woman is more likely to become pregnant?"; and, (2) "Is this time just before her period begins, during her period, right after her period has ended, or halfway between two periods?". It is classified into two categories: in the middle of the cycle and other time in a woman's cycle. The variable originally has six classifications but since the objective in this study is to group women based on their correct knowledge on the usual timing of ovulation, all responses other than middle of the cycle were lumped into one category.</p>
Knowledge of the possibility of getting pregnant after giving birth and before the period	<p>This refers to the respondent's answer to the question: "After the birth of a child, can a woman become pregnant before her menstrual period has returned?". Responses are grouped into three categories: Yes, No, and Do not know.</p>
Interaction with a health worker	<p>This pertains to whether the participant was visited by a field health worker within the past 12 months or if she has visited the health center for self-care within the past 12 months based on her answer to the following questions: (1) "In the last 12 months, were you visited by a fieldworker?"; and (2) "In the last 12 months, have you visited a health facility for care for yourself?"</p>
Age at sexual initiation	<p>It is defined as the woman's age in years at first sexual intercourse as determined based on the response to the question: "How old were you when you had sexual intercourse for the very first time?".</p>
Number of children	<p>This refers to the number of children ever born based on the response to questions on the total number of births that the woman has had during her life. This includes children who are alive at the time of the survey, regardless of whether they are living with the respondent or not, and children who were born but died later on.</p>
Wealth index	<p>It is the urban-rural specific wealth index that was calculated by DHS using principal components analysis of easy-to-collect data on a household's ownership of selected assets, such as televisions and bicycles; materials used for housing construction; and types of water access and sanitation facilities. The wealth index is categorized as poorest, poorer, middle, richer, and richest.</p>
Husband or partner's educational attainment	<p>Its definition is similar to that of the respondent's educational attainment. It is categorized into no education, primary, secondary, and higher based on the highest level of education completed.</p>
Couple's fertility preference	<p>This is based on the woman's response to the question: "Does your (husband/partner) want the same number of children that you want, or does he want more or fewer?". The responses were categorized into husband wants more, husband wants fewer, husband wants the same number of children, or unsure of the number of children that the husband wants. The original classification of responses based on the NDHS survey was retained in this variable.</p>
Main health decision-maker	<p>This refers to the question: "Who usually makes decisions about health care for yourself: you, your husband/partner, you and your husband/partner jointly, or someone else?". It is divided into four categories namely, respondent and husband/partner, respondent alone, husband or partner alone, and another person.</p>

**Table 2.** Background characteristics of women aged 15-19 Years old by need for family planning

Background Characteristics	Need for Family Planning		Total (N=503)	p-value
	With Met or No unmet need	Unmet need		
<b>Type of Residence</b> Urban Rural	38.2 61.8	44.3 55.7	40.0 60.0	0.38
<b>Educational Attainment</b> No education Primary Secondary Higher	0.3 26.5 63.7 9.5	0.3 13.7 79.0 6.7	0.3 22.6 68.4 8.73	0.02
<b>Knowledge on ovulatory cycle</b> Middle of the cycle Other time in the cycle	23.8 76.2	14.4 85.6	20.9 79.1	0.07
<b>Knowledge on possibility of getting pregnant after birth and before period</b> Yes No Do not know	64.6 20.7 14.8	53.6 30.5 16.0	61.2 23.7 15.1	0.21
<b>Interaction with a health worker</b> Yes No	22.8 77.3	17.1 82.9	21.0 79.0	0.30
<b>Age at initiation of sex</b> <b>Number of children</b> <b>Household wealth</b> Poorest Poorer Middle Richer Richest	16.2 (0.13)* 1.2 (0.05)* 22.0 17.9 16.1 9.5 3.8	16.4 (0.14)* 1.1 (0.06)* 8.1 8.8 7.5 4.4 1.8	16.3 (0.10)* 1.2 (0.04)* 30.1 26.8 23.6 13.9 5.6	0.51 0.19 0.94
<b>Health decision-maker</b> Respondent and husband/partner Respondent alone Husband/partner alone Others	50.0 44.0 4.2 1.8	50.3 47.8 1.9 0.0	50.0 45.1 3.6 1.3	0.46
<b>Husband/partner's educational attainment</b> No education Primary Secondary Higher	1.2 59.2 31.3 8.2	1.8 59.9 25.1 13.2	1.4 59.4 29.6 9.6	0.53
<b>Couple's fertility preference</b> Both want the same Husband wants fewer Husband wants more Unsure or don't know	68.6 7.7 16.6 7.0	67.3 6.4 25.5 0.8	68.3 7.4 19.1 5.3	0.07

The husbands or partners of the respondents tend to have lower educational attainment than the women. The proportion of women with partners who attended secondary education was recorded at 31.3% for those with no unmet need, and 25.1% for those with unmet need for family planning. Meanwhile, the proportion of husbands or partners who were reported to have attended primary

school only is at 59.2% for those without unmet need and 59.9% for those with unmet need. It was observed that the proportion of husbands or partners decreases as the level of education increases.

In terms of fertility preference, the proportion of women who reported wanting the same number of children as their



**Table 3.** Results of simple logistic regression of unmet need among women aged 15-19 years old

Background Characteristics	Unadjusted OR	95% CI	p-value
<b>Type of Residence</b> (Reference: Urban) Rural	0.78	0.45 - 1.36	0.38
<b>Educational Attainment</b> (Reference: Higher) Secondary Primary No education	1.68 0.70 1.60	0.74 - 3.80 0.26 - 1.87 0.14 - 18.21	0.08
<b>Knowledge on ovulatory cycle</b> (Reference: Middle of the cycle) Other time in the cycle	1.85	0.94- 3.60	0.07
<b>Knowledge on possibility of getting pregnant after birth and before period</b> (Reference: Yes) No Do not know	1.77 1.30	0.96 - 3.29 0.58 - 2.92	0.19
<b>Contact with a health worker</b> (Reference: Yes) No	1.43	0.72 - 2.82	0.30
<b>Age at initiation of sex</b> <b>Number of children</b> <b>Household wealth</b> (Reference: Richest) Richer Middle Poorer Poorest	1.05 0.63 0.99 0.99 1.05 0.79	0.91 - 1.21 0.45 - 1.36 0.27 - 3.72 0.28 - 3.60 0.30 - 3.75 0.15 - 1.47	0.51 0.01 0.99 0.99 0.93 0.19
<b>Health decision-maker</b> (Reference: Respondent and husband/partner) Respondent alone Husband/partner alone	1.08 0.45	0.58- 2.00 0.14 -1.48	0.35
<b>Husband/partner's educational attainment</b> (Reference: Higher) Secondary Primary No education	0.63 0.50 0.92	0.24 - 1.61 0.18 - 1.40 1.37 - 6.23	0.69
<b>Couple's fertility preference</b> (Reference: Unsure or do not know) Husband wants more children Husband wants fewer children Husband wants same number of children	12.81 6.90 8.17	2.55 - 64.30 0.93 - 51.27 1.79 - 37.31	0.03

**Table 4.** Result of multiple logistic regression of unmet need among women aged 15-19 years old

Background Characteristics	Adjusted OR	95% CI	p-value
<b>Couple's fertility preference</b> (Reference: Unsure or do not know) Husband wants more children Husband wants fewer children Husband wants the same number of children	12.21 7.26 7.94	2.42 - 61.61 0.95 - 56.33 1.72 - 36.47	0.03

husband or partner, those without unmet need was found to be at 68.6% which is higher than that of women with unmet need which is at (67.3%). On the other hand, those with unmet need for family planning has higher proportion of husbands/partners who desire more children than what their wives prefer than those without unmet need (25.5% vs. 16.6%).

The results of simple logistic regression between each variable and unmet need for family planning are shown in Table 3 while the identified predictor after model building is shown in Table 4. Results of logistic regression show that a couple's fertility preference has a significant relationship with unmet need for family planning. Due to the assumption that women have the focal role of making decisions regarding contraceptive use when fertility preference is not well-discussed among couples, the group of women who are unsure of their partners' desired number of children was used as the reference group. The odds of having unmet need for family planning increased by twelve times among those whose husbands or partners want a higher number of children compared with those who are unsure of their partners' fertility preference. Meanwhile, those whose husbands or partners want the same number of children than their wives or partners are approximately eight times more likely to have unmet need for family planning.

## Discussion

The results of this study highlight the relationship between a couple's fertility preference and unmet need for family planning among women. The tendency for couples to be less likely to use contraception when only the wife wants to cease childbearing supports the recent evidence that the husband's preference as a stronger predictor of contraceptive use than the wife's fertility intentions [15,16,17,18,19,20]. Young women who responded that their partners want more children are twelve times more likely to have unmet need than those who are unsure about their husband's fertility preference. It is consistent with the findings of Pearson and Becker which that contraceptive use is significantly lower among couples whose husband only has the desire to limit or delay childbearing [13]. Likewise, the study conducted by Casterline in the Philippines showed that a husband's pronatality is associated with unmet need for family planning and that the proportion of women with unmet need is twice higher among couples wherein the husbands or male partners wanted more children than what their wives preferred [21]. This may be indicative of young women's need for spousal approval to practice family planning. Limited education and employment opportunities among women

who experienced early childbearing make females more dependent on their partners and this may influence a woman's decision to use contraceptives given the knowledge regarding their husbands' or partners' desired fertility. In addition, the patriarchal gender norm may add pressure on women to give precedence to their partners' preference.

Results of the analysis also show that couples who want the same number of children are almost eight times more likely to an unmet need for family planning than those who are unsure about their partners' preferred number of children. On the other hand, a husband's desire for fewer number of children is not significantly associated with unmet need for family planning. Although this may undermine the assumption that concordant couples are less likely to have unmet need, this may suggest the persistence of the notion that family planning is a woman's domain especially among couples who seem to lack spousal discussion regarding their ideal family size. Women's lack of knowledge on their partners' desired number of children implies a lack of communication regarding the matter which may limit the participation of men in decision-making regarding reproductive health [22,23]. However, one limitation of the data is the failure to account for the husbands' and couples' desire for birth spacing which may explain the lack of observed protective effect of having the same fertility preference and males' desire for fewer children against having unmet need for family planning. The husbands' desired number of children may be more reflective of males' need for birth limiting rather than spacing, which is also a component of unmet need for family planning. The possibility that couples may have the same ideal number of children but have differing preferences regarding timing of subsequent pregnancy cannot be completely excluded and thus, male involvement in reproductive health is an essential point of intervention for family planning.

Another important finding is the low level of women's knowledge of their reproductive health. Although it was observed that the group with no unmet need has a higher percentage of women with knowledge on usual timing of ovulation as well as knowledge of the possibility of pregnancy during the interval between childbirth and return of menstrual cycle compared to women with unmet need, the proportions observed in the two groups of women do not differ significantly. This may be the reason for the lack of association between unmet need for family planning and these two variables. Despite the high proportion of young women who attended secondary education, almost four out of five women were not knowledgeable about the usual

timing of ovulation and only 60% were aware that it is possible to conceive another child after pregnancy and before the return of menstrual cycle. The observed low percentage of women with knowledge on menstrual and ovulatory cycle in the study is consistent with the results of latest Young Adult Fertility and Sexuality (YAFS) study in the Philippines wherein 18.0% and 18.9% of all women and women with at least college education, respectively, were able to correctly identify the point in a woman's menstrual cycle wherein conception is most likely to occur [5]. The low level of knowledge on reproductive health among young women despite having attended secondary or college level of education stresses the importance of intensifying age and development-appropriate school-based sex education. As found in the recent reports on the implementation of Responsible Parenthood and Reproductive Health Law of 2012, sexuality education is focused on menstrual hygiene and does not explicitly include sex and contraception in the comprehensive sex education [9,24]. Current guidelines also advise flexibility in selecting topics and methodology based on consultation with parents and other stakeholders, and materials used by providers for behavior change communication and counseling are still centered on abstinence as the best way of preventing adolescent pregnancies [24,25]. It is for these reasons that the current adolescent reproductive health initiatives fell short on providing adolescents with necessary knowledge and skills that will empower them to make informed choices regarding sex and reproductive health [9].

In addition to the low percentage of women with knowledge on ovulatory cycle and possibility of pregnancy during the time between last childbirth and first menstrual period, the low proportion of young women with interaction with a health worker within the past 12 months may also contribute to the low level of knowledge on reproductive health among young women. The absence of visit to a health center and lack of coverage to home visits by a field health worker indicates low access to healthcare [27,32]. Literature points out to inexperience in accessing health services, increased sensitivity to confidentiality breaches among young people, and restrictive laws that do not allow minors to access contraceptives without written consent from parents or guardians as the primary barriers in accessing reproductive health services among young people [27,28,29,30,31,32]. Moreover, the issue on ensuring access to quality reproductive health services also affects the provider side. The absence of guidelines or protocols for preventing closely spaced births among cohabitating and single teen parents, provider bias, and

limited contraceptive options, particularly for long-acting reversible contraceptives (LARCs) which should also be an option for teen mothers, are the major challenges faced by health workers and other service providers [7, 24].

Although measures were done to ensure the representativeness of estimates and to reflect the relationship between the predictors and the outcome variable, this study has some limitations. One of these limitations is heaping of some categories for knowledge on ovulatory cycle. This variable was measured by asking women regarding their belief on timing during a woman's monthly cycle at which pregnancy has the highest chance of occurring. The original responses to the variables include: (1) before or during menstrual cycle; (2) in the middle of the cycle; (3) after menstrual cycle; and (4) do not know. During the analysis, the original responses were recoded into two categories because of the assumption that those who answered that ovulation occurs before or during menstrual cycle, after menstrual period, and those who do not know the ovulatory cycle have similar level of knowledge that is considered lower than those who answered that the likelihood of pregnancy is highest during the middle of the cycle.

Another limitation of the study is its inability to capture some of the variables that may be related to women's intent to use contraceptives. This is because the data set used in this secondary analysis did not measure the intent to use contraceptives for birth spacing and limiting separately. Variables that would allow deeper assessment of the level of knowledge on family planning, such as side effects and proper use of contraceptive methods, were also not measured in the data set. Determining sexual activity was also prone to errors due to possible failure in recalling the correct timing of the most recent sexual intercourse, which was used as a measure of being sexually active. The social desirability bias on sexual intercourse outside of marriage may also lead to underestimation of unmet need for family planning among unmarried women. Lastly, women who participated in the NDHS were interviewed on their husbands' or partners' background characteristics, such as educational level, occupation, and desired number of children. Their responses were used in determining husband-related factors on family planning. This may introduce recall bias since those with unmet need for family planning may be more likely to remember that their husbands or partners prefer fewer or more children than females without unmet need for family planning. Lapses in recalling information on male characteristics may also make the measurement of these variables prone to error.



## Conclusion

This paper is the first study that explored the determinants of unmet need among young, sexually active Filipino women. It showed the extent to which family planning can be affected by discordance in fertility preference and thus, emphasized the need to veer away from usual interventions that focus only on addressing women's reproductive health needs and instead, identify strategies that will encourage open communication and joint decision-making on family planning especially among young couples. The findings also call for the strengthening or expansion of the current initiatives on adolescent reproductive health. The low proportion of young women with knowledge on menstrual cycle, pregnancy, and family planning suggests that there is a gap in the delivery of key reproductive health messages to young people. Sex and reproductive health education in schools should be geared towards empowering young people in making informed choices on reproductive and sexual issues as well as improving the young women's knowledge on the effects and proper use of contraceptives. There is also a need for variability in the strategies used among young and older age groups since the needs of young women may differ from those of older women. Programs should also be designed to target the varying needs of the different groups of young women such as those who are in union, sexually active younger adolescents, first-time parents, and teenage parents who want to limit subsequent births. Lastly, further research on family planning and contraceptive use among young women should be conducted in order to gain a deeper understanding of the factors that affect family planning and fertility. Future studies will validate the findings of this paper and will provide basis for the development of strategies that are tailored to address the reproductive health needs of young women.

## Acknowledgment

The author would like to thank the Demographic Health Surveys (DHS) Program of Inner City Fund for providing access to the data of the National Demographic Health Survey (NDHS).

## References

- (2018) World Health Organization. Adolescent Pregnancy.
- Guttmacher Institute, International Planned Parenthood Federation (2015). Sexual and Reprod Health of young women in the Philippines: 2013 data update.
- Wodon QC. (2017). Economic impacts of child marriage: Global synthesis report. Washington DC: World Bank.
- Demographic Health Survey. (2015). The DHS Program STATcompiler (online database of demographic and health surveys: Philippines 1993, 1998, 2003, 2008, 2013). 2015.
- Herrin AN. (2016). Education, Earnings and Health Effects of Teenage Pregnancy in the Philippines.
- Every Woman Every Child. (2015).
- Family Planning 2020. (n.d.). FP2020 Rights and Empowerment Principles.
- Republic Act No. 10354: An act providing for a national policy on responsible parenthood and Reprod Health 2012. (n.d.).
- Department of Health and Population Commission on Women. (2017). 4th Annual Report on the Responsible Parenthood and Reproductive Health Law Implementation.
- Demographic Research and Development Foundation and the University of the Philippines Population Institute. (2014). 2013 YAFS Key Findings. Quezon City: DRDF and UPPI.
- Philippine Statistics Authority and ICF International. (2014). Philippines National Demographic and Health Survey 2013. Manila, Philippines, and Rockville, Maryland USA: PSA and ICF International.
- Philippine Statistics Authority and ICF. (2018). Philippines National Demographic and Health Survey 2017: Key Indicators. Quezon City, Philippines and Rockville, Maryland, USA: PSA and ICF.
- Pearson E, Becker S. (2015). Couple's Unmet Need for Family Planning and Application to Three West African Countries. *Studies in Family Planning*, 339-359.
- MacQuarrie KL. (2014). Unmet Need for Family Planning among Young Women: Levels and Trends. Rockville, Maryland, USA: ICF International.
- Bankole A, Ekeh AC. (n.d.). Unmet need for couples: An analytical framework and evaluation with DHS data. *Population Research and Policy Review*, 18(6), 579-605.
- Gipson JD, Hindin MJ. (2009). The effect of husbands' and wives' fertility preferences on the likelihood of a subsequent pregnancy, Bangladesh 1998-2003. *Population Studies*, 63(2), 135-146.
- Tilahun T, Coene G, Temmerman M, Degomme O. (2014). Spousal discordance on fertility preference and its effect on contraceptive practice among married couples in Jimma zone, Ethiopia. *Reproductive Health*, 11(27).

18. Kabagenyi A, Jennings L, Reid A, Nalwada G, Ntozi J, Atuyambe L. (2014). Barriers to male involvement in contraceptive uptake and reproductive health services: a qualitative study of men and women's perceptions in two rural districts in Uganda. *Reproductive Health*, 11(21).
19. Patton GC, Sawyer SM, & al., S. e. (2016). Our future: a Lancet commission on adolescent health and wellbeing. *Lancet*, 387(10036), 2423-2478.
20. Andro A, Hertrich V, Robertson GD. (2002). Demand for contraception in Sahelian countries: Are men's and women's expectations converging? Burkina Faso and Mali, compared to Ghana. *Population*, 57(6), 929-957.
21. Casterline JB, Perez AE, Biddlecom AE. (1997). Factors Underlying Unmet Need in the Philippines. *Studies in Family Planning*, 28(3), 173-191.
22. Soldan V. (2004). How family planning ideas are spread with social groups in Rural Malawi. *Studies on Family Planning*, 35, 275-290.
23. Oyediran K, I.-A. U. (2002). Husband-wife communication and couple's fertility desires among the Yoruba of Nigeria. *African Population Studies*, 17, 61-80.
24. Melgar JL, Melgar AR, Festin MR, Hoopes AJ, Chandra-Mouli V. (2018). Assessment of country policies affecting reproductive health for adolescents in the Philippines. *Reproductive Health*, 15, 205-219.
25. Department of Health. (2012). Department of Health.
26. World Health Organization. (2017). World Health Statistics 2017: Monitoring Health for the SDGs, Sustainable Development Goals. Geneva: World Health Organization: World Health Organization.
27. Assimwe J, Ndugga P, Mushomi J, Ntozi J. (2014). Factors associated with modern contraceptive use among young and older women in Uganda; a comparative analysis. *BMC Public Health*, 14:926.
28. Nishtar N, Sami N, Alim S, Pradhan N, Farid U.-H. (2013). Determinants of Contraceptives Use amongst Youth: An Exploratory Study with Family Planning Service Providers in Karachi Pakistan. *Global Journal of Health Sciences*, 5(3).
29. Shahabuddin AM, Nostlinger C, Delvaux T, Malabika S, Bardaji A, De Brouwere VE. (2016). What Influences Adolescent Girls' Decision- Making Regarding Contraceptive Methods Use and Childbearing? A Qualitative Exploratory Study in Rangpur District, Bangladesh. *PLoS One*, 11(16).
30. Kennedy E, Gray N, Azzopardi P, Creati M. (2011). Adolescent fertility and family planning in East Asia and the Pacific: a review of DHS reports. *Reproductive Health*, 8:11.
31. Bawah A. (2002). Spousal Communication and Family Planning Behavior in Navrongo: A Longitudinal Assessment. *Studies in Family Planning*, 33(2), 185-194.
32. Chandra-Mouli V, Parameshwar PS, Parry M, Lane C, Hainsworth GE. (2017). A never-before opportunity to strengthen investment and action on adolescent contraception, and what we must do to make full use of it. *Reproductive Health*, 14:85.
33. ICF. (2018). Demographic and Health Surveys Standard Recode Manual for DHS7. The Demographic and Health Surveys Program. Rockville, Maryland, U.S.A.: ICF
34. Philippine Demographic and Health Survey 2017 [Dataset]. PHIR70FL.DTA. Rockville, Maryland: General Directorate of Statistics, and ICF. ICF, 2018.