

# Rethinking Unmet need for Contraception Among Never-married Adolescents: Evidence from Indonesia Demographic Health Survey (2007 and 2012)

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## Summary

Unmet need for contraception refers to the gap between women's fertility preference and their contraceptive practice. While the definition of this demographic measurement is straightforward, it requires complicated algorithms based on evolving assumptions concerning the risks of pregnancy. Measurement challenges, however, do not negate the fact that some never-married adolescents may be at risk of pregnancy and need to delay pregnancy. Sexual and reproductive behavior among never-married adolescents has long been subjected to the problem of under-reporting, leading to statistical unreliability. Moreover, being underrepresented also lead to their statistical invisibility. This study aims to understand never-married adolescents' contraceptive practice wherein sexual encounters outside recognizable marriage are prohibited, such as in Indonesia. My study finds that female adolescents and rural residents have lower odds of using contraceptives. Knowing about contraceptives does not seem to be a good predictor for contraceptive use. However, a more positive attitude toward family planning services corresponds to greater odds of using contraceptives. Further analyses reveal that the effects of knowledge and attitude mediate only a small part of the total effects of being female and living in a rural area. These results imply the need to rethink the much-accepted assumption regarding adolescents' sexual and reproductive matters.

**Keywords:** invisibility, Indonesia, never-married adolescents, unmet need for contraception

## Introduction

Individuals in need of family planning are generally defined as those who are fecund, sexually active, and reporting not wanting any more children or wanting to delay the next child. The concept refers to the discrepancy between fertility preferences and contraceptive practice (Bongaarts 1991; Westoff 1988a, 1992). Unmet need for contraception, however, is often measured for only among married or in-union women of reproductive age (15-49 years old) (ICF International and MEASURE DHS 2006). Measures of such indicators are often problematic due to the variability of the contents and the availability of survey questions to construct them and the variability of their contents (Westoff 1988b; Westoff and Pebley 1981). While studies in demography focus on refining the enumerator of this measurement (Bradley and Casterline 2014; Casterline and Sinding 2000), they tend to ignore the denominator and take it as unproblematic. The current common denominator (or universe) for unmet need is currently married or in-union women, assuming that these women are sexually active. The enumerator is related to assumptions concerning women's exposure to risks of pregnancy, sexual behavior, physiological capacity to become pregnant, and the reliability of retrospective report. In some Demographic Health Survey samples, non-married or non-consensual union women are excluded because they are not considered to be sexually active, while married women are assumed to be sexually active and at risk of pregnancy. I argue, however, that the first assumption is misleading and, often, has a discriminatory impact on never-married adolescents' access to sexual and reproductive health services. Due to this challenges, never-married adolescents tend to be omitted from both political and scholarly discussions on unmet need for contraception (see Budiharsana 2017 for an exception). Thus, creating an issue of statistical invisibility. I suggest that it is imperative to shift analytical attention to this population group. Are never-married adolescents at risk of having unintended pregnancy? Do they know how to prevent pregnancy? How do they perceive family planning services?

## Data and Methods

I obtain the data from the adolescent reproductive health component embedded within the Indonesia Demographic and Health Survey (IDHS). This component includes only never-married adolescents aged 15-24 years old identified through household-listing. I use pooled data from two survey rounds of the IDHS (2007-2008 and 2012-2013) to allow for comparisons over time. The present analysis is based on 2,032 never-married adolescents aged 15-24 years who have ever had sexual intercourse and completed the surveys.

The primary variables of interest are knowledge of family planning methods, attitude toward family planning services, and practice of contraceptive methods (contraceptive use). Other variables included in the analyses are age, sex (male/female), type of residence (urban/rural), education attainment (no education/primary/secondary and higher education) and survey year (2007/2012). Analyses include (1) descriptive statistics to show the distribution of never-married adolescents who have ever had sexual intercourse according to selected characteristics by survey year (Table 1), (2) logistic regression analysis was used to build a series of nested models that examine the relationship between never-married adolescents' contraceptive use and individual characteristics, knowledge about family planning, and attitude toward family planning services (Table 2 and Table 3), and (3) the Karlson, Holm and Breen (KHB) method to decompose the effects of key independent variables across different models (Table 4).

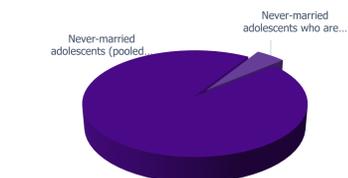
## Findings

A considerable number of never-married adolescents reported ever having had sexual intercourse, although they compose only a small proportion of the total respondents in the IDHS surveys. More than half of those who are sexually active do not use contraceptive consistently (Figure 1 and Figure 2).

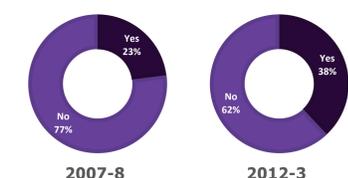
**Table 1.** Distribution of never-married adolescents who have ever had sexual intercourse, by survey year

Variable	2007-8	2012-13
<b>Contraceptive use</b>		
Using contraceptive at both first and last sexual intercourse (yes)	0.23 (0.01)	0.38 (0.01)
no	0.77 (0.01)	0.62 (0.01)
<b>Knowledge of FP</b>		
Do not mention contraceptive	0.32 (0.01)	0.32 (0.01)
Mention contraceptive as a way to avoid pregnancy	0.68 (0.01)	0.68 (0.01)
<b>Supportive attitude toward FP services</b>		
Information	0.08 (0.01)	0.08 (0.01)
Counseling	0.22 (0.01)	0.27 (0.01)
Access	0.69 (0.02)	0.65 (0.01)
Age*	20.34 (0.08)	20.43 (0.06)
<b>Sex</b>		
Male	0.87 (0.01)	0.89 (0.01)
Female	0.13 (0.01)	0.11 (0.01)
<b>Place of residence</b>		
Rural	0.54 (0.02)	0.44 (0.01)
Urban	0.46 (0.02)	0.56 (0.01)
<b>Education attainment</b>		
No education	0.09 (0.01)	0.06 (0.01)
Primary	0.50 (0.02)	0.40 (0.01)
Secondary and Higher	0.41 (0.02)	0.54 (0.01)

Note: Summary statistics are weighted to produce unbiased estimates. An asterisk (\*) denotes means, not percentage as in the rest of the table. Standard deviation is included in parentheses. Missing values are excluded from the analysis.



**Figure 1.** Percentage of never-married adolescents who are sexually active.



**Figure 2.** Percentage of sexually active never-married adolescents who reported using contraceptive at both their first and last sexual intercourse in the 2007-8 and 2012-3 survey rounds.

**Table 2.** Logistic regression models predicting probability of using contraceptive at both first and last time sexual intercourse

	Model 1	Model 2	Model 3
<b>Education attainment</b>			
No education	Ref.	Ref.	Ref.
Primary	0.17 (0.25)	0.17 (0.25)	0.16 (0.25)
Secondary and Higher	0.46 (0.25)	0.46 (0.25)	0.45 (0.25)
<b>Place of residence</b>			
Urban	Ref.	Ref.	Ref.
Rural	-0.63*** (0.10)	-0.63*** (0.10)	-0.63*** (0.10)
<b>Sex</b>			
Male	Ref.	Ref.	Ref.
Female	-0.38* (0.16)	-0.38* (0.16)	0.35* (0.16)
<b>Age</b>			
	-0.03 (0.02)	-0.03 (0.02)	0.03 (0.02)
<b>Year</b>			
2007	Ref.	Ref.	Ref.
2012	0.87*** (0.10)	0.89*** (0.11)	0.90*** (0.12)
<b>Knowledge of FP</b>			
Do not mention contraceptive		Ref.	Ref.
Mention contraceptive as a way to avoid pregnancy		0.04 (0.11)	0.03 (0.11)
<b>Supportive attitude toward FP services</b>			
Information			Ref. 0.38 (0.21)
Counseling			0.52** (0.19)
Access			-1.08 (0.55)
Constant	-0.58 (0.51)	-0.61 (0.52)	-1.08 (0.55)
N	2032	2032	2032
Pseudo R-squared	0.065	0.065	0.068
BIC	2408.362	2415.868	2423.076
AIC	2369.045	2370.934	2366.908
Likelihood Ratio test	-1177.523	-1177.467	-1173.454

Note: Log-odds are followed by standard errors in parentheses. "Ref" denotes omitted categories for dummy variables. \*  $p < 0.05$  \*\*  $p < 0.01$  \*\*\*  $p < 0.001$ ; two-tailed tests.

Never-married adolescents who reside in a rural area have 47 % lower odds of using contraceptives. Similarly, there is a negative relationship between being female and contraceptive use. Knowing contraceptives as a way to avoid pregnancy, surprisingly, corresponds to 32% lower odds of using contraceptive. Also, the effect does not change after controlling for attitude in addition to individual characteristics. Supporting the provision of counseling and access to family planning for unmarried adolescents is associated with 46% higher odds of contraceptive use and 68% higher odds of consistent contraceptive use, respectively. The effects remain unchanged after controlling for knowledge about family planning. Educational attainment and age do not have significant effects on the odds of using contraceptive. **Table 3** shows that never-married adolescents who reside in a rural area have 0.1 lower probability of using contraceptives compared to those who reside in an urban area. Probability of contraceptive use was 0.18 point higher in 2012 than in 2007. The effect of knowledge does not seem to be significant. However, adolescents who reported having a more positive attitude toward family planning services have 0.1 higher probability of using contraceptives than those who do not endorse for the provision of counseling and access to family planning services for unmarried adolescents.

**Table 3.** Average marginal effects of key independent variables on contraceptive use

Variable	Model 1	Model 2	Model 3
<b>Type of residence</b>			
Rural	-0.12*** (0.02)	-0.12*** (0.02)	-0.13*** (0.02)
<b>Sex</b>			
Female	-0.07** (0.03)	-0.07** (0.03)	-0.06** (0.03)
<b>Sample year</b>			
2012	0.18*** (0.02)	0.18*** (0.02)	0.18*** (0.02)
<b>Knowledge of FP</b>			
Mention contr.		0.007 (0.02)	0.006 (0.02)
<b>Attitude toward FP</b>			
Agree to counseling			0.07 (0.04)
Agree to access to FP			0.1** (0.03)

Note: \*  $p < 0.05$  \*\*  $p < 0.01$  \*\*\*  $p < 0.001$ ; two-tailed tests.

**Table 4.** Confounding ratio and confounding percentage from the KHB method to interpret the effects of individual characteristics and survey years in a series of nested regression models

	Model 2			Model 3		
	Confounding ratio	Confounding percentage	Rescaling factor	Confounding ratio	Confounding percentage	Rescaling factor
<b>Place of residence</b>						
Urban	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Rural	1.00	-0.25	1.00	0.99	-0.76	1.00
<b>Sex</b>						
Male	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Female	1.01	1.35	1.00	1.11	10.00	1.00
<b>Year</b>						
2007	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
2012	1.03	3.79	1.00	1.00	0.00	1.00

Taking knowledge of contraceptive methods into account, the total effects for adolescents who live in a rural area, those who are female, and survey year do not change the findings much. However, attitude toward family planning services suppresses the effect of living in a rural area by around 0.76% percent. Knowledge mediates only 1.35% percent of the total effect of being female, while attitude mediates 10% percent of its total effect. However, attitude does not seem to mediate the effect of survey year and only 3.79% percent of the total effect of sample year is mediated by knowledge of family planning (Table 4).

## Conclusion

Individual characteristics such as type of residence (living in either urban or rural area), sex (male or female), and sample year are important predictors for contraceptive use among never-married adolescents. Only a small percentage of the total effects of these individual characteristics are mediated by knowledge and attitude toward family planning services, although attitude seems to explain a significant percentage of the total effect of being female. While knowledge mediates a small percentage of the total effects of sample year, attitude does not contribute to the total effect of sample year. It seems that, for the most part, changes in contraceptive use happen without being mediated by attitude toward family planning services and individuals' knowledge of family planning. Dissonance between knowledge, attitude, and contraceptive use seems to be present in this study. In a setting where premarital sex is prohibited and even illegal, knowledge and attitude toward family planning are not good predictors for contraceptive practice among never-married adolescents who are sexually active. Such findings highlight the importance of rethinking never-married adolescents' contraceptive practice and their needs that are currently unseen, uncounted, and, thus, unaccounted. The problem of statistical invisibility renders these adolescents unable to access sexual and reproductive practice and to secure their wellbeing.

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