



Original Article

## Factors analysis of unwanted pregnancies among women childbearing age in Indonesia: analysis of demographic and health survey data in 2017

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### ABSTRACT

**Background:** Unwanted pregnancies were one of the serious threats to human development around the world. This analysis identifies factors associated with unwanted pregnancies, including intrapersonal, interpersonal, and institutional health services.

**Objective:** We analyzed the extent of unwanted pregnancies and how they predict factors related to Indonesia's unwanted pregnancies.

**Methods:** We analyzed data from the Indonesian Demographic and Health Survey (IDHS) in 2017. Descriptive statistics on the prevalence of unwanted pregnancies and correlated factors. Multiple logistic regression was used to examine the association between intrapersonal factors, interpersonal factors, and community factors with unwanted pregnancies.

**Results:** Participants reported that their most recent was 83.8% indicated a desired pregnancy and 16.2% were unwanted. Multivariate analysis shows the age of the woman (OR=1.37), economic status (OR=1.05), number of children (OR=1.47), contraception failure (OR=0.78), and health worker intervention (OR=1.27) was found to significantly increase the risk of unwanted pregnancy ( $p < 0.05$ ). The number of children is the most substantial factor in unwanted pregnancy among women childbearing in Indonesia.

**Conclusions:** Nearly a fifth of pregnancies among vulnerable women in Indonesia are unwanted pregnancies. Women should plan pregnancy according to the target number of children desired with a partner.

### INTRODUCTION

Nearly a fifth of pregnancies among vulnerable women in Indonesia are unwanted pregnancies. Women, especially the most vulnerable, should be empowered to avoid pregnancy at their own will and discretion<sup>1</sup>. Unwanted pregnancy is one of the factors contributing to the population surge.

Unintended pregnancy is a pregnancy not timely, unplanned, or desirable at conception<sup>2</sup>. World Health Organization estimates that from all women with undesirable pregnancies, 4 million ends up miscarriage, 42 million abortions, and 34 million unexpected pregnancies<sup>3</sup>. Every year 80,000 women die, and 95% of deaths occur in developing countries<sup>4</sup>. Unwanted pregnancy incidence is 38% worldwide or about 80 million pregnancies per year<sup>5</sup>.

This, of course, also increases the risks of maternal and child mortality. Unwanted pregnancies have severe and adverse health, social and economic impacts<sup>6</sup>.

Of 750,000 teens aged 15-19 years old who are pregnant, most (82%) are unwanted pregnancies<sup>7,8</sup>. In 2006, the estimated U.S. adolescent pregnancy rate was 71.5 pregnancies per 1,000 young women aged 15-19. It experienced a slight increase from 69.5 between 2005-2006<sup>7,9</sup>. In Europe, One-third of all unwanted pregnancies are young women in their twenties. Eighty-six percent of unplanned pregnancies are unmarried women in their twenties. Unwanted pregnancies among girls in their twenties affect women of all races, levels of education, and income levels<sup>10</sup>.

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Prior research exploring the relationship between unintended pregnancies, the causes of unwanted pregnancy include not using contraceptives or birth control, inconsistent use of contraceptives, and contraceptive failure<sup>11</sup>. Unwanted pregnancy is influenced by several factors: intrapersonal, interpersonal, institutional/ structural, health services<sup>12,13</sup>. Unwanted pregnancies occur more in married couples<sup>14</sup>. Several studies show that unwanted pregnancy is related to the mother's age and the number of children<sup>14,15</sup>.

Women with better education will want a small number of children and experience lower unwanted pregnancies<sup>16</sup>. Women with unwanted pregnancies tend to have lower education and less work participation than women who have desired pregnancies<sup>17</sup>. Women who access mass media, both television, radio, and newspapers, can reduce the risk of unwanted pregnancy<sup>15</sup>. At the same time, economic status and residence become other intrapersonal and structural factors of unwanted pregnancy<sup>14,18,19</sup>. The study's main objective is to analyze the extent of unwanted pregnancies and predict factors related to unwanted pregnancies in Indonesia.

## METHOD

### Study Design

This is of cross-sectional study design.

### Data Sources and Sample

We analyzed data from the Indonesian Demographic Health Survey (IDHS) in 2017. This is a cross-section survey that gathers information about health status, utilization of health services, and health determinants in 34 provinces with a total sample of 49,250 women. This study's inclusion criteria were women aged 15–49 years who had had children in the five years before the survey and lived in all Indonesia provinces. After screening, according to inclusion criteria, obtained survey data as many as 8,838 women for the analysis of this study.

### Definition of Variable

Pregnancy unwanted was pregnancy then (unplanned), wanted later (mistimed), or not wanted at all (unplanned) at the time of conception. Intrapersonal factors consist of the age of women, education degree, marital status, and work. Interpersonal include economic status, number of children, a complication of pregnancy, contraceptive failure. Community factors analyzed were residence, information access, health workers intervention.

### Data analysis

We performed an analysis of the cases with complete data—descriptive statistics on unwanted pregnancy fac-

tors. The data are cross-tabulated to determine the prevalence of unwanted pregnancy for all covariates. Logistic regression is used to examine the relationship between covariates and unwanted pregnancy. Results are presented in terms of opportunity ratio (OR) along with a confidence interval of 95% (CI's). The difference was rated significantly at  $p < 0.05$ . The weight of the rescaled population is used to take into account the stratified multistage design. The result of the final analysis is fit models and the dominant factor against unwanted pregnancy.

## RESULTS

### Characteristics of Respondents

The distribution of key variables considered in the study for women of childbearing age can show in Table 1. In 2017, an estimated 1435 unwanted pregnancies accounted for 16.2% of the total population. Intrapersonal factors indicate the respondent's age; the prevalence is almost balanced between vulnerable and ideal age (52.2% vs. 47.8%). The majority of women are low education (87.4%) and married (99.6%). A higher prevalence was observed for those who work (56.5%). Due to the interpersonal factor that economic status, highest prevalence rich women have (41.5%), with the highest number of children  $\geq$  two sons (66.6%) and most did not have complications of pregnancy (98.1%). The spread of residence is almost evenly distributed between urban and rural (48.4% vs. 51.6%) in the community factor. However, almost all get information access (99.2%); only health workers' interventions have not been well obtained by the respondent (93.6%).

**Table 1.** Percentage distribution of women childbearing, Indonesia (n=8838)

Characteristics	Frekuensi	Percentage
<b>Age of women</b>		
Vulnerable(<20&>35)	4228	47.8%
Ideal (20-35)	4610	52.2%
Mean = 35 Median= 36		
SD = 7.9		
Min = 15, Max = 49		
<b>Education degree</b>		
Low	7721	87.4%
High	1117	12.6%
<b>Marital status</b>		
Live together	33	0.4%
Married	8805	99.6%
<b>Work</b>		
Yes	4997	56.5%
No	3841	43.5%
<b>Economic status</b>		
Poor	3314	37.5%
Middle	1859	21.0%
Rich	3665	41.5%
<b>Number of children</b>		
$\leq 2$	5890	66.6%
$> 2$	2948	33.4%
<b>Complications of pregnancy</b>		
Yes	167	1.9%
No	8671	98.1%

<b>Contraceptive failure</b>		
Failure	2924	33.1%
Success	5913	66.9%
<b>Residence</b>		
Urban	4282	48.4%
Rural	4556	51.6%
<b>Information access</b>		
Not exposed	73	0.8%
Exposed	8765	99.2%
<b>Health Worker Interventions</b>		
Not Good	8276	93.6%
Good	562	6.4%
<b>Unwanted pregnancy</b>		
Yes	1435	16.2%
No	7402	83.8%

### ***Pregnancy Intentions by Intrapersonal, Interpersonal and Community Factors***

In the analysis, intrapersonal factors were associated with unwanted pregnancies associated with vulnerable age and marital status. However, the level of education, employment, and low economic levels are not related. Vulnerable mothers are 1.6 times more likely to have an unwanted pregnancy than mothers of the ideal age.

All interpersonal factors associated with unwanted pregnancy are associated with children, pregnancy complications, and contraceptive failure. Mothers with children > 2 are 1.5 times higher at risk for unwanted pregnancies. Mothers with successful contraceptives had 1.2 times higher risk of preventing unwanted pregnancies than those

who experienced contraceptive failure. All community factors, including their residence, information access, and health worker, show no association with unwanted pregnancies (Table 2).

### ***Logistic Regression Analysis***

The calculation result obtained of correlates factors of unwanted pregnancies is shown in Table 3. The age of the woman was significantly correlated with an unwanted pregnancy. Participants vulnerable age experienced a 1.37 higher risk of unwanted pregnancy than those in the age group ideal.

Economic status showed a remarkable influence on unwanted pregnancies—women who were rich 1.05 times more risk than married women to have experienced unwanted pregnancy. The odds ratio of an unwanted pregnancy was 1.47 times higher for women who had > 2 children more than those who had experienced two pregnancies. Contraceptive failure revealed a remarkable effect on unwanted pregnancies. Women with no contraceptive failure were 0.78 times more likely to have an unwanted pregnancy than those who reported no contraceptive failure.

Health worker intervention also showed an association with pregnancy intentions. Women who get intervention from health workers were 1.27 times more likely to no get intervention from health workers. The number of children is the most substantial factor in unwanted pregnancy among women childbearing in Indonesia.

**Table 2.** Relationship of Intrapersonal, Interpersonal, and Community Factors with Unwanted pregnancy among Women Childbearing in Indonesia (n=8837)

Variable	Unwanted Pregnancy	Wanted Pregnancy	OR	95% C.I	p-value
<b><i>Intrapersonal Factors</i></b>					
<b>Age of women</b>					
Vulnerable(<20>35)	892 (19.4%)	3717 (80.6%)	1.63	1.45-1.83	0.001
Ideal (20-35th)	543 (12.8%)	3685 (87.2%)			
<b>Education degree</b>					
Low	1233 (16%)	6488 (84%)	1.16	0.98-1.37	0.08
High	202 (18.1%)	915 (81.9%)			
<b>Work</b>					
Yes	593 (15.4%)	3248 (84.6%)	1.12	0.91-1.25	0.075
No	843 (16.9%)	4154 (83.1%)			
<b>Economic status</b>					
Poor	508 (15.3%)	2806 (84.7%)	None	None	0.060
Middle	292 (15.7%)	1567 (84.3%)			
Rich	635 (17.3%)	3029 (82.7%)			
<b>Marital status</b>					
Married	1433 (16.3%)	7372 (83.7%)	0.33	0.08-1.39	0.176
Live together	2 (6.1%)	31 (93.9%)			
<b><i>Interpersonal Factors</i></b>					
<b>Number of children</b>					
<=2	846 (14.4%)	5044 (85.6%)	1.49	1.33-1.67	0.001
>2	590 (20%)	2358 (80%)			
<b>Complications of pregnancy</b>					
Yes	1406 (16.2%)	7265 (83.8%)	1.09	0.73-1.64	0.074
No	29 (17.5%)	137 (82.5%)			
<b>Contraceptive failure</b>					

Failure	524 (17.9%)	2401 (82.1%)	0.83	0.74-0.94	0.003
Success	911 (15.4%)	5002 (84.6%)			
<b>Community factors</b>					
<b>Residence</b>					
Rural	730 (17%)	3552 (83%)	0.892	0.79-9.99	0.051
Urban	706 (15.5%)	3851 (84.5%)			
<b>Information access</b>					
Not exposed	10 (13.7%)	63 (86.3%)	1.22	0.62-2.39	0.666
Exposed	1425 (16.3%)	7339 (83.7%)			
<b>Health Worker Interventions</b>					
Not Good	1331 (16.1%)	6945 (83.9%)	1.85	0.95-1.48	0.148
Good	104 (18.5%)	458 (81.5%)			

**Table 3.** Logistic Regression of Factors Associated With Unwanted Pregnancies

	<b>B</b>	<b>Wald</b>	<b>p-value</b>	<b>OR</b>	<b>95% C.I</b>
<b>Age of women</b>	0.387	37.568	0,000	1.37	1.301-1.666
<b>Economic status</b>	0.053	6.436	0.011	1.05	1.012-1.099
<b>Number of children</b>	0.307	22.959	0,000	1.47	1.199-1.541
<b>Contraceptive failure</b>	-0.248	15.736	0,000	0.78	0.690-0.882
<b>Health Worker interventions</b>	0.242	4.346	0.037	1.27	1.015-1.599
<b>Constant</b>	-2.683	392.535	0,000	0.07	

## DISCUSSION

Unintended pregnancies have essential to the health and general welfare of individuals and families. Measures aimed at reducing unwanted pregnancies should be pursued. Understanding the factors that trigger unwanted pregnancy will be very beneficial as an appropriate intervention. Implementing appropriate interventions to reduce unintended pregnancies requires an understanding of the underlying factors that influence such pregnancies. This study goal measured the magnitude and correlation of unintended pregnancy among women of childbearing age in Indonesia<sup>20</sup>. Results show that close to a fifth of the women analyzed had not intended their most recent pregnancies. Although these figures were higher than the national estimates of unwanted pregnancy in 2012<sup>21</sup>, the proportion of unwanted pregnancies significantly outnumbered the proportion of unwanted pregnancies<sup>22</sup>.

Logistic regression revealed several factors associated with unwanted pregnancies and other factors. The number of children was the most substantial factor, women with many children > 2 showing a proclivity for unwanted pregnancies. Women with many children >2 showing a proclivity for unwanted pregnancies. This suggests that additional births increase the likelihood of unwanted pregnancy and increase pregnancy likelihood, not timely<sup>23</sup>. Women who have children >2 will tend to have an unwanted pregnancy risk, compared to those who want to have more children before the first pregnancy<sup>24</sup>. An increase in the number of live children is positively associated with unwanted pregnancies<sup>20</sup>. While the married age of mothers more aged over 20 years, maternal age is not associated with the desired pregnancy event. The results indicate that younger women are more likely to report pregnancies not

on time; this finding is in line with previous research findings<sup>19,23,25</sup>.

The study results also showed that unwanted pregnancy was most likely to occur in vulnerable aged women and showed decreasing likelihood with increasing age. This observation supports similar findings from Philippines<sup>22</sup> and findings from Malaysia<sup>23</sup> but contradicts findings from the Malaysia<sup>26</sup>. Furthermore, women who experienced contraceptive failure were significantly more likely to experience unwanted pregnancies than women who used contraceptives. For women experiencing withdrawal failures, the risk of unintended pregnancy was higher among women reporting modern contraceptive failure and lowered among that reporting contraceptive discontinuation and non-use<sup>27</sup>. This supports the earlier assertion that if effective contraceptives are available and correctly used, unintended pregnancies can be prevented<sup>28</sup> since this reduces unplanned pregnancies through increased contraception use.

Finally, women who did not get health workers intervention were significantly more likely to experience unwanted pregnancies than women who received intervention from health workers. In line with previous research, these findings show that women who get interventions about pregnancy from health workers will reduce the risk of unwanted pregnancies<sup>29,30</sup>.

## CONCLUSIONS AND RECOMMENDATION

Nearly a fifth of pregnancies among vulnerable women in Indonesia are unwanted. Women at higher risk of untimely pregnancies are vulnerable women, wealthy economic status, the number of children >2, experiencing contracep-

tive failure, and not getting intervention from health workers. Children's most dominant factor influencing unwanted pregnancy Research of these predictive factors is essential for intervention programs to calculate an unwanted event pregnancy.

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