ANALYSIS PREDICTING OF LOSS POTENTIALLY UNWANTED PREGNANCY AMONG WOMEN OF CHILDBEARING AGE IN INDONESIA

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ABSTRACT

Introduction: Unwanted pregnancies have serious and adverse health, social and economic impacts and risks for maternal and child mortality. In Indonesia, Unwanted pregnancies are one of the most disturbing public health problems and major reproductive health problems worldwide that will put social and economic burdens on individuals and communities. . This analysis influenced by several factors, among others: intrapersonal, interpersonal, institution health service. **Methods**: The type of research used is descriptive analytic with cross sectional study design using cross-sectional study in 2012. This research will be analyzed using logistic regression analysis. Sampling is done by determining the research variables in each year of the Demographic Health Survey in 2012 by way of determining the questionnaire in accordance with the content of research variables. **Results**: Participants ranged in age from 15 years to 49 years old and had a median age of 30 years. women pregnant who became respondents, 85% showed their most recent pregnancies as wanted pregnancy and 15% unwanted. Multivariate analysis showed that there were only variables of maternal age and number of children who had an effect on unwanted pregnancy. Mothers younger than 20 years have a risk of 2,5 times to get an unwanted pregnancy compared to mothers aged over 20 years after controlled by the number of children and mothers who have 2 children are 4,4 times more likely to get unwanted pregnancies than mothers who have more of 2 children after controlled by maternal age. The number of children is the most dominant factor affecting unwanted pregnancies. **Conclusion**: About one and a half of women in Indonesia are unwanted pregnancies. Women, especially the most vulnerable should be empowered to avoid unwanted pregnancies for their own awareness and independence.

Keywords: *Unwanted pregnancy, Women, Childbearing, Predicting, Loss potentially, Indonesia.*

Introduction

Indonesia's population growth rate reached 1,5% at 2015. That number is higher than the previous one-decade growth rate of 1,45 percent. With that growth, it is estimated that every year there are 4-5 million babies in Indonesia or equal to the population of Singapore. In 2019, the population growth rate is targeted at 1,21 percent (Bappenas, 2013). One of the things that contributes to the spike in population is the number of unwanted pregnancies.

Unintended pregnancy is a pregnancy not timely, unplanned or desirable at conception (CDC, 2013). Pregnancy experienced by a woman who actually does not want or already do not want to get pregnant. Unwanted pregnancy is a global social and health challenge including unwanted pregnancies and pregnancy occurs faster than planned (mistimed)(BKKBN, 2007). Gilda Sedgn reports that in 2012 there were 213.4 million pregnancies worldwide with pregnancies aged 15-44 years 133 per 1000 women in the same age group and 40 percent of whom were unintended pregnancy rates. While in Southeast Asia there are 18.8 million total pregnancies and 44 percent of them because pregnancy is not desirable (Gilda *et al*, 2006).

Unwanted pregnancy incidence of 38% worldwide or about 80 million pregnancies per year (Glasier *et al*., 2006). This, of course, also gives rise to risks for maternal and child mortality. Unwanted pregnancies have serious and adverse health, social and economic impacts (Marston and Cleland, 2003). World Health Organization WHO (2013) estimates every year of all women with undesirable pregnancies, 4 million of whom end miscarriages, 42 million abortions, and 34 unexpected births. Unintended pregnancy is a risk factor for maternal morbidity and mortality related to abortion which is not safe (Bitto *et al*., 1997). Every year as many as 80 thousand women died and 95% of deaths occurred in developing countries (Karim, 2009).

In the World of 750,000 teens ages 15-19 who are pregnant each year, most (82%) are unintentional pregnancies (Kost *et al.,* 2010; Santelli *et al.,* 2009). In 2006, the estimated US adolescent pregnancy rate was 71.5 pregnancies per 1,000 young women aged 15-19 years. It experienced a slight increase from 69.5 between 2005-2006 (Kost *et al.,* 2010; Finer *et al.,* 2006). 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 (Pazol *et al.,* 2011).

In the field of health services also get a negative impact because the unwanted pregnancy of the mother has a tendency to not check her pregnancy on a competent health personnel, inadequate immunization and misbehavior behavior is not true. In the socio-economic field with reduced undesirable events can improve the well-being of both mother and children (Dixit *et al.,* 2012). If linked to the Millennium Development Goal's (MDGs) targets, the undesirable decline in pregnancy will help achieve the 4th and 5th MGs targets in maternal and child health (Santelli *et al*., 2009; Singh *et al*., 2010).

Unwanted pregnancies are one of the most disturbing public health problems and major reproductive health problems worldwide that will put social and economic burdens on individuals and communities. Unwanted pregnancies harm women and their families through consequences such as unsafe abortion, treatment delayed prenatal care, poor maternal mental health, poor quality of mother-child relationship, poor development for children, physical violence and violence against women, increased risk of low birth weight as well as increased maternal morbidity and mortality (Santelli *et al.,* 2009; Singh *et al.,* 2010). Among adolescents, pregnancy is the cause and effect of poverty and low academic achievement. Teenage pregnancy is part of the "poverty cycle" in which very young mothers are often in poor condition, and their children are at high risk for teenage pregnancy, poverty, and lower academic outcomes (Basch, 2010).

In Indonesia, there are 86 percent of births from a desired pregnancy, 7 percent of births from unplanned pregnancies and 7 percent of births from unwanted pregnancies. Information about the desire to have children among 15-49 year old married women respondents found that 15 percent of women still want more children, 24 percent have not decided when to add more children, and 47 percent do not want children anymore. In married 15-54 year old male respondents, 15 percent of men wanted more children, 25 percent had no plans to have more children, and 45 percent did not want to have more children. Ika Saptarini reported an unexpected pregnancy incident according to Research Basic Health (Riskesdas) 2013 is 15 percent (Saptarini and Suparmi, 2013).

Birth control is an additional burden on the government budget which will further affect economic efficiency and lead to economic slowdown. Unwanted children experience a greater risk of negative experiences, psychological and physical health problems and high school dropouts. Unwanted children tend to exhibit misbehavior during adolescence (Sonfield *et al*., 2011). Unwanted children tend to experience levels of depression, anxiety and delinquency are higher than those in the desired group of children. The effects of unwanted birth are decreased ability to achieve academic success. Unwanted pregnancies cause high maternal morbidity, and threaten family economic survival (Hayatbakhsh *et al.,* 2011).

The losses incurred in the economic field, indicating that unwanted child health has a significant impact on a country's economic performance and growth. Unwanted pregnancy is one of the most critical challenges facing the public health system and burdening the financial and social costs of the community. Reducing the incidence of unwanted pregnancies will increase the participation rate of the workforce, increase academic performance, have better economic efficiency, improve health levels and reduce crime rates among vulnerable groups. Unwanted pregnancies have various negative impacts in education (Moss, 2003; Heather, 2012), labor participation (Hayatbakhsh *et al.,* 2011) increased crime rates (Minnesota Department of Health, 2002), more abortion, increased stress levels in households (Khakki *et al.,* 2011).

Unwanted causes of pregnancy include not using contraceptives or contraceptives, using inconsistent contraception, and contraceptive failure (Speidel *et al.,* 2008). The unwanted pregnancy is influenced by several factors, among others: intrapersonal, interpersonal, institution health services (Koran and Mawn, 2010; WHO, 2013). Unwanted pregnancies are more common among married couples (Sedgh *et al.,* 2006). The results of several studies have shown that unwanted pregnancies are related to maternal age and number of children (Sedgh *et al.,* 2006; Ikamari *et al.,* 2013; Geda and Lako, 2011). Women with better education will want fewer children and have lower unwanted pregnancies (Adhikari *et al.,* 2009). Women with unwanted pregnancies tend to have lower education and less participate in the workforce than women who are desirable pregnancies (Monea and Thomas, 2011). Women who access the mass media of television, radio and newspapers can reduce the risk of unwanted pregnancy (Adhikari *et al.,* 2009). While the economic status and residence become intrapersonal and structural factors other than the occurrence of unwanted pregnancy (Ikamari *et al.,* 2013; Rahman *et al.,* 2014; Sedgh *et al.,* 2006).

One way to reduce the risk of unwanted pregnancies is the visits of family planning officers and health workers who provide information on contraception over the last 12 months (Geda and Lako, 2011). In addition, pregnancy is not desirable because couples do not use contraception when they do not want to have more children or unmet need, contraceptive failure, and contraceptive use discontinue (Fallon *et al*., 2008).

The general cost required for unwanted pregnancies is estimated at about 11 billion dollars in year for direct medical expenses including the cost of birth, one year of infant medical care and the cost of losses to the development of the fetus. Unwanted pregnancy prevention efforts will save more than $ 5 billion per year for short-term medical expenses. Long-term cost savings will be much greater. Direct medical costs of unwanted pregnancies include $ 5 billion in medical care (Monea and Thomas, 2011).

Other effects of unwanted pregnancies on mothers include inadequate prenatal care resulting in adverse health effects on women and children and lack of preparation for parenthood (Leon and Hart, 1995). Women with unwanted pregnancies are more it is easy to suffer from depression during or after pregnancy (Reduce the likelihood of breastfeeding, so that children are not well (Logan *et al.,* 2007).

In addition, the negative effects of unwanted pregnancies on infants include those born to have low birth weight and greater infant mortality and result in an increased risk of premature birth (Leon and Hart, 1995). This unwanted pregnancy event can lead to abortion. Although abortion is considered illegal in Indonesia, the rate of abortion is 750,000 to 1,000,000 incidents per year. The rate ranges from 40 to 50% (mostly unsafe abortions) done by adolescent girls. Based on data released by BKKBN(Indonesian Population and Family Information Network), it is estimated that every year the number of abortions in Indonesia reaches 2.4 million people. In fact, 800 thousand of them occur among adolescents.Such as in Surabaya recorded 54%, Bandung 47%, and 52% in Medan. Abortion high rates among adolescents is often associated with sexual freedom and failure family planning (BKKBN, 2013).

When looking at the potential impacts of unwanted pregnancy on maternal and child life, researchers want to undertake an analysis of undesirable pregnancy predictions in women of childbearing age in Indonesia including intrapersonal, structural and health care factors. From the results of this study is expected to produce a policy recommendation and priority of targeted and appropriate targeted program intervention in overcoming the negative impact of the incidence of unintended pregnancy in Indonesia.

Methods

The type of research used is descriptive analytic with cross sectional study design using cross-sectional study in 2012. This research will be analyzed using logistic regression analysis Sampling is done by determining the research variables in each year of the survey during the three years survey refers to data of Demographic Health Survey (SDKI) in 2012 by way of determining the questionnaire in accordance with the content of research variables. The variables analyzed in the study were limited to the variables available in the 2012 SDKI questionnaire which consisted of Age, First Age Married, Number of Children, Education, Employment, Contraception, Equality of intentions, Agreement with spouse, Husband Education, Husband Occupation, Access Early Sex Activity, Distance Pregnancy, Unsafe Sexual Behavior and Contraceptive Failure.

Sources of data used in this study are Indonesia Demographic and Health Survey 2012 which is a national survey on demography and health in Indonesia as a result of cooperation between Central Agency of Statistics(BPS), Indonesian Population and Family Information Network (BKKBN) and Ministry of Health (Kementrian Kesehatan). This survey provides data on fertility, family planning, maternal and child health (MCH), maternal mortality, and attention to the problem of Acquired Immune and Deficiency Syndrome (AIDS) and Sexually Transmitted Diseases (STDs) beneficial to program development, determinants policies and research in the field of population and health. Indonesia Demographic and Health Survey is a national scale.

The 2012 IDHS data includes approximately 46,000 sample households scattered throughout Indonesia's geographical area. The number of selected census blocks for SDKI activities was 1,840 census blocks with an average sample size of 25 households per census block. The number of samples is expected to be eligible respondents (55,200 responder women of childbearing), 13,248 respondents, and 23,000 male respondents.

Results and Discussion

Study Participants

Participants ranged in age from 15 years to 49 years old and had a median age of 30 years. The majority of mothers aged over 20 years with high school education. While the married age of mothers are mostly over the age of 20 years and half more mothers use contraception. Decision or freedom in choosing a health service is determined together with a partner. Most mothers have an agreement in marriage decided jointly with a spouse. From the factor of husband, education of husband mostly high school educated, and majority work. Determining the number of children born the majority of mothers to determine the same number of couples. Maternal predisposing factors show that education, contraceptive use, freedom of self, similarity of intent and number of children affect unwanted pregnancies. The proportion of maternal education getting the desired pregnancy tends to be the same. Mothers used more contraception in mothers who gave birth than desired unwanted pregnancies. Mother's freedom of self will have a greater risk than if jointly decided partner. Most mothers and couples have the same intentions in planning the number of children. Mothers who have 2 children are 4,7 times more likely to have birth than unwanted mothers. Access to information obtained by most mothers is easy. Mothers who had easy access to information had a 1,6 times greater risk of getting a desired pregnancy than those who had difficult information. Enabling factors in the form of access to information have a significant effect, mothers who are easily accessed information have a 1.6 times greater risk to get the desired pregnancy compared to mothers with unwanted pregnancies.

Table 1 . Characteristics Of Women Analysis Predicting Of Loss Potentially Unwanted Pregnancy Among Women Of Childbearing Age In Indonesia

Variable	%
Married Age	
> 20 years	54.5
< = 20 years	45.5
Education Mother	
High school	70.4
Academy	10.8
University	18.8
Use of Contraception	
Yes	72.4
No	27.6
Freedom of Self	
Women	26.4
Husband/spouse	8.3
Together	60.4
Other	4.9
Equality of Intention	
Same number	66.7
More children	19.4
Fewer Children	4.5

Do not know	9.4
Determining Number ofChildren	
Wife	3.6
Husband	6.1
Together	97.6
Education Husband	
Primary School	8,7
Junior high school	14,4
High school	50,9
Academy	5,8
University	20,1
Do not know	0,1
Husband's Work	
Yes	98.1
No	1.9
Mother's Age	
> 20 years	98.0
≤ 20 years	2.0
Number of Children	
2 persons	73.6
> 2 persons	26.4
Access Information	
Easy	7.1
Difficult	92.9
Total	100.0

Table 2 Percent distribution of Predicting Of Loss Potentially Unwanted Pregnancy Among Women Of Childbearing Age In Indonesia

Variable	Wanted pregnancy (%)	Unwanted pregnancy(%)	P value	OR	CI 95%	
Married Age						
> 20 years	80.0	20.0	0.706	1.556	.446	5.429
< = 20 years	72.0	28.0				
Education mother						
High school	84.7	15.3	0,026			
Academy	88.4	11.6				
University	84.5	15.5				
Use of contraception						
Yes	83.8	16.2	0.015	0.824	0.706	0.961
No	86.3	13.7				
Freedom of self						
Wife	82.3	17.7	0,0001			
Husband/Spouse	85.7	14.3				
Together	84.5	15.5				
Other	60.6	39.4				
Equality of Intention						
Same number	87.6	12.4	0,0001			
More children	83.8	16.2				
Fewer children	82.5	17.5				
Do not know	82.7	17.3				
Determining Number of Children						
Wife	76.0	24.0	0.606			
Husband	80.6	19.4				
Together	83.1	16.9				
Education Husband						

Primary school	85.0	15.0	0.826			
Junior high school	85.4	14.6				
High school	85.2	14.8				
Academy	87.1	12.9				
University	84.3	15.7				
Do not know	80.0	20.0				
Husband's work						
Yes	85.2	14.8	0.186	1.374	.891	2.119
No	80.7	19.3				
Access Information						
Easy	89.7	10.3	0.003	1.576	1.170	2.122
Difficult	84.7	15.3				
Mother's age						
> 20 years	85.1	14.9	0.623	1.152	.732	1.812
< = 20 years	83.2	16.8				
Number of children						
2 persons	91.1	8.9	0.000	4.742	4.134	5.439
> 2 persons	68.3	31.7				
Total	85.1	14.9				

Table 2 Percent distribution of Predicting Of Loss Potentially Unwanted Pregnancy Among Women Of Childbearing Age In Indonesia

Variabel	***Adjusted Odds Ratio***	***p-value***
Freedom of Self	0.953	0.472
Equality of Intention	1.059	0.127
Number of children	0.967	0.765
Age has child	0.998	0.615
Education Husband	1.064	0.412
Husband's work	1.244	0.714
Access information	1.553	0.281
Mother's age	2.480	0.008
Number of Children	4.380	0.000
Konstanta	0.127	0,000

Multivariate analysis showed that there were only variables of maternal age and number of children who had an effect on unwanted pregnancy. Mothers younger than 20 years have a risk of 2.5 times to get an unwanted pregnancy compared to mothers aged over 20 years after controlled by the number of children and mothers who have 2 children are 4.4 times more likely to get unwanted pregnancies than mothers who have more of 2 children after controlled by maternal age. The number of children is the most dominant factor affecting unwanted pregnancies.

A high level of education is one of the most unwanted pregnancies in Indonesia. The results of the analysis show that most mothers with secondary education and the risk of getting unwanted pregnancies tend to be similar. This is in line with women's education related to unwanted pregnancies (Sedgh *et al.,* 2006; Adhikari *et al.,* 2009; Islam and Rashid, 2005). Women who have secondary education are more likely to be at risk of unwanted pregnancies, compared to women not in school (Islam and Rashid, 2005). Women who have higher education are at risk for getting pregnancies not timely or undesirable (Kiersten *et al.,* 2004). Women with primary education have a higher risk of getting undesirable pregnancies than

highly educated women. More educated women are more likely to be honest in reporting their recent pregnancies as non-timely pregnancies (Eliason *et al.,* 2014).

While the married age of mothers more aged over 20 years, maternal age is not associated with the desired pregnancy event. The results are different that younger women are more likely to report pregnancies not on time and these findings are in line with previous research findings (Kiersten *et al.,* 2004; D'Angelo *et al*., 2004; Takahashi *et al*., 2012). This may be explained by the argument that for young women, the purpose of sexual intercourse may be in addition to childbirth, and pregnancy may represent the undesirable consequences of the sexual relationship (Exavery *et al.,* 2014). Younger mothers are risk factors for unwanted pregnancies. Unwanted pregnancies are usually observed in socially disadvantaged women (Rahman, 2012).

The majority of mothers use contraception, between women who use contraception and those who do not use contraception have the same risk. The influence of knowledge on contraceptives plays an important role in the use of contraception, and it is one of the important factors associated with unwanted pregnancies (Calverton, 2012). There is an inverse relationship between contraceptive use and unwanted pregnancies (Linh *et al*., 2004). However, there was a positive relationship between contraceptive use and unwanted pregnancy (Tebekaw *et al.,* 2014).

Decision or freedom in choosing a health service is determined together with a partner. Most mothers have freedom of consent in marriage decided jointly with a spouse. Because women's autonomy is associated with unwanted pregnancies. Women who have low decision-making are at risk for unwanted pregnancies (Rahman, 2012). Women with autonomy tend to discuss contraceptive methods with their partners, and are more likely to use modern family planning services or intend to do so at the future thus reducing unwanted pregnancies, female autonomy becomes a significant predictor of unwanted pregnancies (Rahman *et al.,* 2014).

More women have similar intentions in the number of children. Most mothers and couples have the same intentions in planning the number of children. The intention to implement family planning among non-current users of contraception is a reflects women's awareness indicators about unwanted pregnancies and readiness to avoid them (Kiersten *et al.,* 2004). Non contraceptive method has proven to be 100% effective. Estimated 8-30 million pregnancies each year are the result of inconsistent or incorrect contraceptive failures in the use of contraceptive methods or simply because of the failure of the contraceptive method itself. For those who are already motivated to not have children anymore and are already using contraception but still failing, they will usually find a way out by way of abortion (Muzdalifah, 2008).

Husband education is mostly high school education and education is considered as one of the undesirable determinants of pregnancy. There is a positive correlation between not spouse / husband education with desired pregnancy (Sedgh *et al.,* 2006; Adhikari *et al.,* 2009; Islam and Rashid, 2005). The majority of husbands work and this becomes low economic status, social and educational partners / husbands may be at risk of low fertility control resulting in unwanted pregnancies (Adhikari *et al.,* 2009).

Access to information obtained by most mothers is easy. Mothers who had easy access to information had a 1.6 times greater risk of getting a desired pregnancy than those who had

difficult information. Access to information has a significant effect, women who have easy access to information have a 1.6 times greater risk of getting the desired pregnancy compared to women with unwanted pregnancies.

The number of children is the most dominant factor that affects unwanted pregnancies, this is in line with the incidence of unwanted pregnancies will indicate a high risk to women who have given birth three times or more. Similar results were obtained from previous studies in the United States (D'Angelo *et al*., 2004). After giving birth to desirable children, women who want to limit their fertility and pregnancy tend to regard unwanted pregnancies rather than improper pregnancies (D'Angelo *et al*., 2004). Additional, births increase the likelihood of unwanted pregnancy and increase the likelihood of pregnancy not timely (Kiersten *et al.,* 2004; Singh *et al.,* 2010). Women not having children before the first pregnancy, will tend to have an unwanted pregnancy risk, compared with women who want to have more children before the pregnancy (Calverton, 2012; Rahman, 2012). Increased number of live children positively associated with unwanted pregnancies (Linh *et al.,* 2004).

Risk of Unwanted Pregnancy

The possible consequences of unwanted pregnancies, among others (Muzdalifah, 2008): a) Unwanted pregnancies can lead to the birth of an unwanted child. The future of this unwanted child often does not get the proper love and parenting of his parents so that his growth can be disrupted. b) The occurrence of unwanted pregnancies can lead to abortion because most women experience unwanted pregnancies making decisions or ways of getting out with abortion, moreover unsafe abortion.

Unwanted pregnancy with 4 will also increase the risk of complications and deaths in pregnant women, in addition to causing unsafe abortion that contribute to improving AKI. Unwanted pregnancies can adversely affect the health, social and psychological well-being of mothers and infants, thus not only increasing morbidity and maternal mortality but also producing fetuses and high-risk infants, such as impaired growth and development (BKKBN, 2013).

In addition, the consequences of unintended pregnancy events will affect: 1) Inadequate prenatal care adversely affects the health of women and children because of lack of preparation for parenthood. This unwanted pregnancy is in addition to the risk factor of delays, unwanted pregnancies having the risk of being mistimed (not timely). 2) Unwanted pregnancies preclude opportunities for the cure of sexually transmitted diseases (STDs) before pregnancy. Untreated sexually transmitted diseases (PMS) in pregnant women can result in premature delivery, infection of newborn or infant death. 3) Women with unwanted pregnancies are more likely to suffer from depression during or after pregnancy. 4) Impact on mother's mental health. 5) Increased risk of physical violence during pregnancy. 6) Reduce breastfeeding opportunities, so that children are less healthy. 7) The quality of the mother-child relationship is lower. 8) Decreased maternal and infant health status 9) The relationship between mother and baby less harmonious. 10) More likely to delay initiation of prenatal care.

Other effects that would potentially affect children with unwanted births are: a) Infants are at greater risk of low birth weight. This is triggered by an increased risk of preterm delivery. In America, eliminating any unintended pregnancy events reduces the risk of severe low birth weight by 7% for blacks, and 4% for whites. b) Higher infant mortality. If all sexually active

couples regularly use effective contraceptives will reduce abortion, unwanted live birth, infant death. c) Infants potentially suffer from mental and physical disabilities during childhood. d) Higher risk of child abuse and neglect. e) Children are potentially having trouble learning in school. f) More likely to live in poverty and need public assistance. g) More likely to have economic difficulties and criminal behavior. h) Children experience weakness of intelligence. i) tend to have a close relationship with their mother.

Conclusion

The education of mothers who get the desired pregnancy tends to be the same. More mothers use contraception. The majority of mothers have the freedom of self and the same intentions in planning the number of children. Access to information obtained by most mothers is easy. Mothers who have 2 children are 4.7 times more likely to give birth than unwanted mothers. Mothers who had easy access to information had a 1.6 times greater risk of getting a desired pregnancy than those who had difficult information. Maternal age and the number of children who have an effect on pregnancy are not desirable. Mothers younger than 20 years have a risk of 2,5 times to get an unwanted pregnancy compared to mothers aged over 20 years after controlled by the number of children and mothers who have 2 children are 4,4 times more likely to get unwanted pregnancies than mothers who have more of 2 children after controlled by maternal age. The number of children is the most dominant factor affecting unwanted pregnancies. The authors are grateful to the Measure Demographic Health Surveys (DHS) program for providing access to the dataset. The author's sincere thanks go to all the women who participated in the survey.

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