

Child marriage and Reproductive Health Outcomes in Indonesia

Tati Sumiati¹, Agustin Kusumayati¹, Trisna Budy Widjayanti²



¹Department Public Health, Faculty of Public Health, Universitas Indonesia

²Faculty of Public Health, Universitas Mohammad Husni Thamrin

Abstract— One in ten girls in Indonesia experienced child marriage before the age of 18 in years 2019 which had been a national disaster and a serious implications for public health. This study aims to assess the association of child marriage on reproductive health outcomes. Retrospective data from the Indonesia Family Life Survey (IFLS5) year 2014 on 930 ever-married women aged 20-24 years with a cross sectional study design. Logistic regression was used to analyze the independent variables of child marriage to each dependent reproductive health outcomes variable which were early fertility, adolescent childbearing, antenatal visits, delivery by skilled personnel, modern contraception, pregnancy termination, low birth weight, and neonatal mortality. The covariate variable in this study were education, marital status, residence, and living at outside Jawa Bali. The results showed that child marriage were associated to early fertility ($p = 0.01$: OR = 0,4), adolescent childbearing ($p = 0.01$: OR = 39), and delivery by skilled personnel ($p = 0.01$: OR = 2.1) and child marriage weren't associated to antenatal visit ($p = 0,07$: OR = 1,5), current modern contraception ($p = 0.95$: OR = 0,9), pregnancy termination (stillbirth and or miscarriage) ($p = 0,55$: OR = 0,9), Low birth weight ($p = 0,89$: OR = 0,9), and neonatal mortality ($p = 0,40$: OR = 1,4). Child marriage were associated to a early fertility, adolescent childbearing and lower assisted delivery by skilled personnel and women who child marriage.

Keywords: Child marriage, reproductive health, early fertility, adolescent childbearing, modern contraception, Indonesia

1. Introduction

Child marriage is part of national disasters because it has many consequences [1]. Even this effect could be a multigenerational cycle [2]. Child marriage is any formal marriage or informal union between a child before 18 years with an adult or another child before 18 years too [3].

Globally 21% of women aged 20-24 years old was married before 18 years in 2018. The most countries where child marriage occurred was in Sub-Saharan Africa and South Asia. South Asia was able to reduce the prevalence of child marriage from 49% to 30% [4]. The prevalence of child marriage in Indonesia based on Susenas data is slowly declining from 14,48% in 2008 to 11,21% in 2018 [5]. It is suitable with the sustainable development goals in 2030 which is to eliminate all harmful practices such as child marriage [6].

The determinant of child marriage includes poverty [7], low education [8], residence at rural, adolescent high-risk behaviors, perception parent or guardian who believe in marriage prevent the moral problem (premarital sexual activity) [7], and perception about religions [9].

Consequences child marriage includes the unfulfilled right to access education and life [10], the high risk of experiencing domestic violence [11], increase the risk early pregnancy and adolescent childbearing [12]. Percentage of adolescents who have given birth or are pregnant with their first child in Indonesia had decreased from 10% (2012 IDHS) to 7% (2017 IDHS). Characteristic of adolescent pregnancy or childbirth include living in rural area, low education and the lowest index [13].

Further, the adverse consequences of adolescent pregnancy and childbearing are intergeneration. The child born to mothers who child marriage are more at risk of premature birth or low birth weight, dan a higher rate morbidity [14], high-risk stunting and delay development (potential to lost the golden generation) [12]. These could be disadvantage for the country economically [15].

Child marriage could lead to the risk of miscarriage/stillbirth [16], neonatal mortality [10], and maternal mortality. Neonatal mortality in the 5 year period before 2017 was 15 deaths from 1000 live births, this shows that 1 in 67 children died in the first month of life. The trend of neonatal mortality rates had decreased from the previous 20 per 1000 births (SDKI 2002-2003). Based on the mother's statement, it showed that the mother's age were less than 20 years, birth order more than 6, with low education and low index have a high percentage of neonatal mortality [13].

To prevent adolescent pregnancy and neonatal mortality, it is hoped that early married couples use contraceptives. But the fact is that only 45.2% of married women aged 15-19 years use contraceptives and 43.8% use modern contraceptives [13]. Mothers are expected to antenatal care regularly, but women who married before 18 years are less likely to have antenatal care and childbearing by skilled personnel compared those who married adults [10]

Based on the analysis above, the research question that we ask is whether the child marriage marriage associated early fertility, adolescent childbearing, antenatal visits, delivery by skilled personnel, modern contraception, pregnancy termination, low birth weight, and neonatal mortality?

2. Methodology

Using longitudinal data socioeconomic and health from the Indonesia Family Life Survey (IFLS), this research is a cross sectional design study from 13 provinces in Sumatra, Java, Bali, West Nusa Tenggara, Kalimantan, and Sulawesi with 15,000 households and 50,000 people.

The sample of this research were 930 women who have been married in aged 20-24 years old to ensure that reflected current marriage in girl and child marriage in 2014.

2.1 Measure

The main independent variable in this study, child marriage, is based on the self-reported date at which the respondent got marriage or start living together with a partner for the first time. We calculated date of marriage minus date of birth for the age of the first marriage. Women with age the first marriage or cohabitation before the age of 18 were defined as experience child marriage

Reproductive health outcomes examined included early fertility is a measuring whether the women gave birth within the first 12 months of marriage. Adolescent childbearing is a women giving birth before age 20. Antenatal visits is indicate the number of antenatal visit during the first pregnancy, where the last category has four or more antenatal visits. Delivery by skilled personnel is refers whether the women's first birth was assisted by a skill health care worker. Categorization of "skilled personnel" is doctor, midwife and nurse. Modern contraception was defined as respondents use a pill, injection 1/2/3 month, intravag, male/female condom, intrauterine device (IUD), female/male sterilization, or implant. Pregnancy termination is a woman report ever having had a pregnancy that result in miscarriage and or stillbirth. Low birth weight is birth weight <2500. Neonatal mortality is respondent ever given live birth to a son or daughters born alive who died before 28 days of life.

Variable covariate examined in this study include the highest level of education attended were defined lower education if the respondent has level education at elementary school/Islamic elementary school, junior high general/vocation/Islamic, adult education B. The marital status was defined as marital and separated/divorced/widowed, the residence (urban or rural), and Region Jawa Bali if responden living at DKI Jakarta, Banten, Jawa Barat, Jawa Tengah, Jawa Timur, DI Yogyakarta and Bali.

2.2 Data analysis

We conducted univariate analysis of the independent and dependent variables based on the covariate variables in this study. Then, bivariate analysis was carried out using logistic regression analysis to assess the associated between child marriage and reproductive health outcomes. The covariate variables were education level, marital status, residence (urban / rural), and region.

3. Results

Table 1 showed the characteristic women aged 20-24 in 2014 that 35% women their first married at \leq 18 years old. Half of them were had second or higher education. Most of them marital status were married, only 3,1% was separated/divorce/widowed. 1 in 2 women were living in rural area and most of them in the Java Bali region.

Table 1
 Characteristic women aged 20-24 in 2014

	n	%
Child marriage		
Yes	280	35,2
No	650	64,8
Level education attended		
Primary	473	49,1
Second or higher	457	50,9
Marital Status		
Separated/divorce/widowed	29	3,1
Married	901	96,9
Residence		
Rural	459	50,6
Urban	471	49,4
Region		
Outside Java Bali	327	35,2
Java Bali	603	64,8

Table 2 showed the univariate analysis of reproductive health outcomes in women aged 20-24 years. The most (8 in 10) women get pregnant before 12 months after marriage (early fertility). More than half of women did not experience adolescents childbearing. When they get pregnant, most of them have had their pregnancy checked (antenatal visit) more than 4 times. Most of them have been delivery assisted by skilled personnel. 7 in 10 women use modern contraception. Most of them haven't experienced stillbirth and / or miscarriage. Most children were born weight more than 2.5 kg. 2% of women have lost their babies before 28 day after birth (neonatal mortality).

Table 2
 Reproductive Health Outcomes in Women Age 20-24 Years 2014

	n	%
Early Fertily		
< 12 years after marriage	709	76,2
\geq 12 years after marriage	221	23,8
Adolescent Childbearing		
Yes	430	48,5
No	456	51,5
Antenatal Visits		
< 4	99	10,8
\geq 4	814	89,2
Delivery by skilled personnel		
No	91	10,4
Yes	786	89,6
Current use modern contraception		
No	281	30,2
Yes	549	69,8
Pregnancy Termination		
Stillbirth/miscarriage	93	10,0
No	837	90,0

Low Birth Weight		
Yes	78	9,5
No	743	90,5
Neonatal mortality		
Yes	19	2,0
No	911	98

Child marriage associated to reproductive health outcomes

Table 3 showed the bivariate analysis that women who married before 18 years was a lower probability of early fertility than women who married ≥ 18 years ($P = 0,01$; OR 0,4). The results of this study are different from previous studies in India, which explained that women were pregnant on average 1 to 6 months after marriage [17]. However women with child marriage were 39 times more likely to have first childbearing before 20 years ($P = 0,01$ OR = 39). Interestingly, women who child marriage have a lower chance of getting pregnant soon after marriage but it not sufficient to delay childbirth until the age ≥ 20 years old. This happens because the social pressure to immediately have children is getting higher when the age of marriage enters the second or third year [18], [19]. Childbearing to a woman less than 20 years old at risk of her and her child because they are not physically and psychologically ready to get pregnant and childbearing [20].

This risk increases with low socio-economic conditions, low education, and inadequate health services, [16][2]. The results of the bivariate analysis showed that women who child marriage were associated with fewer than 4 times antenatal visit and childbearing was not assisted by skilled personnel. But after adjusting, it shows that women who child marriage were associated with delivery not assisted by skilled personnel. Its may result from limited empowerment of women who were experienced child marriage and corresponding lack of decision making power and access to health service [16]. The multivariate analysis showed that maternal age married were not associated with antenatal care. Residing in rural area [21] and living outside at Jawa Bali [22] associated for number of antenatal care less than 4 visits.

Increase in the use of modern contraception among women who child marriage could be attributed to attainment of the desired number of children and maintaining birth spacing. But the result were not in line with previous studies reported an association between child marriage and use modern contraception [16], [23].

Table 3

Summary of logistic regression the effect child marriage on reproductive health outcome

Variabel Dependen	Unadjusted			Adjusted		
	P value	OR	CI 95%	P value	OR	CI 95%
Early Fertility	0,01	0,3	0,2 – 0,4	0,01	0,4	0,3 – 0,6
Adolescent Childbearing	0,01	44,9	25 – 77	0,01	39	22 – 68
Antenatal Visits	0,01	1,9	1,2 – 2,9	0,07	1,5	0,9 – 2,4
Delivery by skilled personnel	0,01	2,9	1,9 – 4,6	0,01	2,1	1,3 – 2,4
Current Modern Contracepton	0,38	0,9	0,6 – 1,2	0,95	0,9	0,7 – 1,4
Pregnancy Termination	0,46	0,8	0,5 – 1,4	0,55	0,9	0,5 – 1,4
Low birth weight	0,52	1,2	0,7 – 1,9	0,89	0,9	0,6 – 1,6
Neonatal mortality	0,36	1,7	0,7 – 4,3	0,40	1,4	0,5 – 3,8

Note : we examined each outcome with child marriage, odd ratio from logistic regression models with 95% CIs. OR adjusted for Geographic location, province, highest level education attended and marital status.

There is no associated between child marriage and pregnancy termination (stillbirth and or miscarriage), low birth weight and neonatal mortality. The results was inconsistent with previous study at 34 sub_saharan African Countries and India documenting significant association between women who child marriage and pregnancy termination, low birth weight and neonatal mortality [23], [24].

4. Conclusion

Based on the results of this study, The child marriage associated with early fertility, adolescent childbearing and lower assisted delivery a skilled personnel. Contraceptive use counseling needs to emphasize the importance of postponing pregnancy until the age of 20 for married couples, especially women who child marriage.

5. References

- [1] BKKBN, "Pernikahan Dini Sebagai Bencana Nasional (Child marriage is a national disaster)," <https://www.cnnindonesia.com/gaya-hidup/20200703183717-289-520695/bkkbn-nilai-pernikahan-dini-sebagai-bencana-nasional>, Jakarta, 2020.
- [2] S. Sekhri and S. Debnath, "Intergenerational Consequences of Early Age Marriages of Girls: Effect on Children's Human Capital," *J. Dev. Stud.*, vol. 50, no. 12, pp. 1670–1686, 2014.
- [3] UNICEF, "Child Marriage," *Lancet*, vol. 223, no. 5779, p. 1210, 1934.
- [4] UNICEF global databases, "Child Marriage Around The World, Based on Demographic and Health Survey (DHS), Multiple Indicator Cluster Survey and other nationally representative surveys," 2018.
- [5] Badan Pusat Statistik, "Pencegahan Perkawinan Anak (percepatan yang tidak bisa ditunda)," *Badan Pus. Stat.*, pp. 0–44, 2020.
- [6] UCLG, "Tujuan Pembangunan Berkelanjutan Yang Perlu diketahi Oleh Pemerintah Daerah (Sustainable Development Goals : what local governments need to know)," *Bul. tataruang BKPRN*, 2011.
- [7] L. Stark, "Poverty, Consent, and Choice in Early Marriage: Ethnographic Perspectives from Urban Tanzania," *Marriage Fam. Rev.*, vol. 54, no. 6, pp. 1–17, 2018.
- [8] L. Rumble, A. Peterman, N. Irdiana, M. Triyana, and E. Minnick, "An empirical exploration of female child marriage determinants in Indonesia," *BMC Public Health*, vol. 18, no. 1. 2018.
- [9] S. M. M. Kamal, C. H. Hassan, G. M. Alam, and Y. Ying, "Child marriage in Bangladesh: Trends and determinants," *Journal of Biosocial Science*, vol. 47, no. 1. pp. 120–139, 2015.
- [10] A. A. Marphatia, G. S. Ambale, and A. M. Reid, "Women's Marriage Age Matters for Public Health: A Review of the Broader Health and Social Implications in South Asia," vol. 5, no. October, pp. 1–23, 2017.
- [11] S. Durğut and S. Kisa, "Predictors of Marital Adjustment among Child Brides," *Arch. Psychiatr. Nurs.*, no. January, 2018.
- [12] Y. Efevbera, J. Bhabha, P. E. Farmer, and G. Fink, "Girl child marriage as a risk factor for early childhood development and stunting," *Social Science & Medicine*, vol. 185. pp. 91–101, 2017.
- [13] BKKBN, BPS, Kementerian kesehatan RI, and USAID, *Survei Demografi dan Kesehatan Indonesia Tahun 2017 (Indonesia Demographic and Health Surveys 2017)*. Jakarta, 2018.
- [14] M. Nasrullah *et al.*, "Knowledge and attitude towards child marriage practice among women married as children-A qualitative study in urban slums of Lahore, Pakistan," *BMC Public Health*, vol. 14, no. 1. 2014.
- [15] Q. T. Wodon *et al.*, "Economic impacts of child marriage : Ethiopia country brief," no. March, pp. 1–12, 2018.
- [16] D. Godha, D. R. Hotchkiss, and A. J. Gage, "Association between child marriage and reproductive health outcomes and service utilization: A multi-country study from south asia," *J. Adolesc. Heal.*, vol. 52, no. 5, pp. 552–558, 2013.
- [17] C. Anurag, S. Mahesh, S. Sarit, S. Surinderpal, and G. Sangeeta, "Reproductive behavior of newly married women in rural Punjab, India A longitudinal study." *Journal of Family Medicine and Primary Care*, 2017.
- [18] A. F. Melta, "Upaya Pasangan yang tidak memiliki anak untuk mempertahankan perkawinan (The efforts of a childless couple to maintain the marriage)," *JIM FISIP Unsyiah*, vol. 2, pp. 1127–1146,

2017.

- [19] K. G. Santhya, U. Ram, R. Acharya, S. J. Jejeebhoy, F. Ram, and A. Singh, “Associations between early marriage and young women’s marital and reproductive health outcomes: Evidence from India,” *Int. Fam. Plan. Perspect.*, vol. 36, no. 3, pp. 132–139, 2010.
- [20] M. Nasrullah, R. Zakar, M. Z. Zakar, and A. Krämer, “Girl-child marriage and its association with morbidity and mortality of children under 5 years of age in a nationally-representative sample of Pakistan,” *J. Pediatr.*, vol. 164, no. 3, pp. 639–646, 2014.
- [21] E. O. Adewuyi *et al.*, “Prevalence and factors associated with underutilization of antenatal care services in Nigeria: A comparative study of rural and urban residences based on the 2013 Nigeria demographic and health survey,” *PLoS One*, vol. 13, no. 5, pp. 1–21, 2018.
- [22] A. D. Laksono, R. Rukmini, and R. D. Wulandari, “Regional disparities in antenatal care utilization in Indonesia,” *PLoS One*, vol. 15, no. 2, pp. 1–13, 2020.
- [23] S. Yaya, E. K. Odusina, and G. Bishwajit, “Prevalence of child marriage and its impact on fertility outcomes in 34 sub-Saharan African countries,” *BMC Int. Health Hum. Rights*, vol. 19, no. 1, pp. 1–11, 2019.
- [24] A. Raj *et al.*, “The effect of maternal child marriage on morbidity and mortality of children under 5 in India: Cross sectional study of a nationally representative sample,” *BMJ*, vol. 340, no. 7742, p. 353, 2010.



This work is licensed under a Creative Commons Attribution Non-Commercial 4.0 International License.