

## **Health consequences of child marriage in high burden countries : a systematic review**

**Ayuning Aulia<sup>1</sup>, Mieke Savitri<sup>2</sup>**

<sup>1,2</sup>Public Health Department, Universitas Indonesia, Depok, Indonesia

<sup>1</sup>[ayuningaulia27.aa@gmail.com](mailto:ayuningaulia27.aa@gmail.com)

Submission date: 20 Juli 2018, Receipt date: 1 Oktober 2018, Publication date: 30 Juli 2019

### **Abstract**

*Child marriage, defined as a formal marriage or informal union before age 18. Worldwide, over 650 million women live today married as children. An estimated 12 million girls under 18 married each year. The purpose of this study is to know health consequences of child marriage. A systematic review by using the search facility database online through PubMed and EBSCO. Journal were screen by using search engine with 5 keywords “child marriage” OR “early marriage” AND “impact” AND “health” then screened based on specific publication from 2013 to 2018, use english, full text, and selecting journals based title and abstract. Found 3822 journals at early stage and at the end 5 articles were included in review. Child marriage significantly increases the likelihood of stillbirth/miscarriage, late child development or stunting, mental health is worse, excessive bleeding, and many women in the ‘thin’/malnutrition category were married before 18 years. There are many health consequences of health marriage. Prevent the occurrence of child marriage, should the child be given education about reproductive health especially, related to the impact of child marriage.*

**Keyword:** health consequences; child marriages; burden countries

---

### **INTRODUCTION**

Child marriage, defined as a formal marriage or informal union before age 18 (UNICEF, 2018). Therefore, girl child marriage is marriage of a girl carried out below the age of 18, before she becomes physically, physiologically and psychologically mature to handle the responsibilities of marriage and childbirth (Ea et al., 2016). Child marriage is widespread and can lead to a lifetime of disadvantage and deprivation. Worldwide, over 650 million women live today married as children. An estimated 12 million girls under 18 married each year. Overall, the proportion of married women as children declined by 15 percent in the past decade, from 1 in 4 to about 1 in 5 At current rates, more than 150 million additional girls will marry before their 18th anniversary in 2030 (UNICEF, 2018).

Most prevalent in Africa and Asia. It remains between 50% and 60% across Sub-Saharan Africa. Countries with the highest absolute number of child marriage are india (15.509.000), Bangladesh (4.451.000), Nigeria (3.538.000) (GNB, 2018). Beside that, Ghana is one of countries has many child marriage, a country with a

---



lower-middle-income, child marriage is prohibited under the constitution and by law. the prevalence of child marriage in Ghana remains high, and one in five girls marries before her 18th birthday (20.7%) and one in 20 girls (4.9%) marries before her 15th birthday. Indonesia is among the ten countries with the highest absolute numbers of child brides: 1,408,000 women aged 20 to 24 were married before the age of 18 (GNB, 2018).

Factors causing the age of marriage of children who are girls who live in poor households, who have less education, and who live in rural locations. lack of law or law enforcement, cultural and social norms, and conflict and vulnerability (Hotchkiss, Godha, Gage, & Cappa, 2016; Efevbera & Farmer, P.E., Fink, 2017)

Child marriage is a violation of human rights and has a verse effect on children (who are mostly women) who enter into this marriage, and in the future of their children, creating an adverse intergenerational cycle. (Groot, Kuunyem, & Palermo, 2018) If this is not soon solved it is difficult to achieve sustainable development goal targets, especially objectives 1 through 5, there are no poverty, no hunger good, good health and well-being, quality education, and gender equality (UN, 2015)

Globally, one of the best means of reducing girl child marriage is girl child education. There has been an increase in the attainment of the girl child educational during the last several decades and this has contributed to the relative delay in early marriage of women. However the progress observed is still very slow and many girls still enter into marriage too early (Efevbera & Farmer, P.E., Fink, 2017). This study will describe about the health consequences of child marriage in high burden countries. there are Bangladesh, India, Nigeria, Ghana, and sub sahara africa

## RESEARCH METHODS

Several search strategies were used to identify potentially relevant studies. Searching data and information used electronic, the site as a source of data. The article search results are used PRISMA for instruments (Preferred Reporting Items for Systematic Reviews & Meta-Analyses) and used flowchart based on checklist PRISMA 2009, eliminate the articles which not relevant with the identification criteria, screening, eligibility, and the end download the articles which are relevant. The first step is open the database PubMed in <https://www.ncbi.nlm.nih.gov/pubmed/> and use the advanced searching. Another online database used is EBSCO. The first step is to open lib.ui.ac.id then click the collection and select the database online and last click EBSCO.

By using search engine with keywords “child marriage” OR “early marriage” AND “impact” AND “health” through journals of PubMed. We get results of 402 documents. Screened based on specific publication (5 years) 85 documents, english 84 documents, full text 81 documents and then selecting journals based on relevance, assessed eligibility found 4. By using search engine with keywords “early marriage” OR “child marriage” AND “impact” AND “health” AND “cross sectional” through academic journals of EBSCO. We get results of 3240 documents. Screened based on specific publication (5 years) 1121 documents, english 1031 documents, free full text 482, and then selecting journals based on relevance, assessed eligibility found 9.

Inclusion criteria of documents that we consider appropriate (eligibility) to do systematic review were as follows: a journal from research; reported in English, published last 5 years (from January 1st, 2013 to December 31st, 2018). Inclusion

criteria for the respondent are child mother who married, impact for health, design study cross sectional.

The population (P) we are focused in this review were married women under 18 years old. The intervention (I) in this review got health consequences of child marriage. The comparator (C) of this review has health consequences or not. Outcome (O) of this review was preventing child marriage. The study designs (S) which selected by author was cross-sectional. The study was conducted in three phases: (1) searching and collecting the literatures and data by search strategy and select studies in online journal database, (2) analyzing and evaluating the literature and data found by assessed quality of study using critical appraisal which corresponding to articles design, and (3) categorizing and summarizing the literatures and data.

Exclusion criteria were as follows: a clinical trials; use language except English and Bahasa, articles published less than 2013, not child mother who married, impact expect health, not use design cross sectional.

Extraction and analysis the data from each articles done by the author. The result are analyzed and the data are prepared in accordance with the theme analysis and arranged in the form of a narrative paper. (The selection process by means of a flow chart was presented in Figure 1)

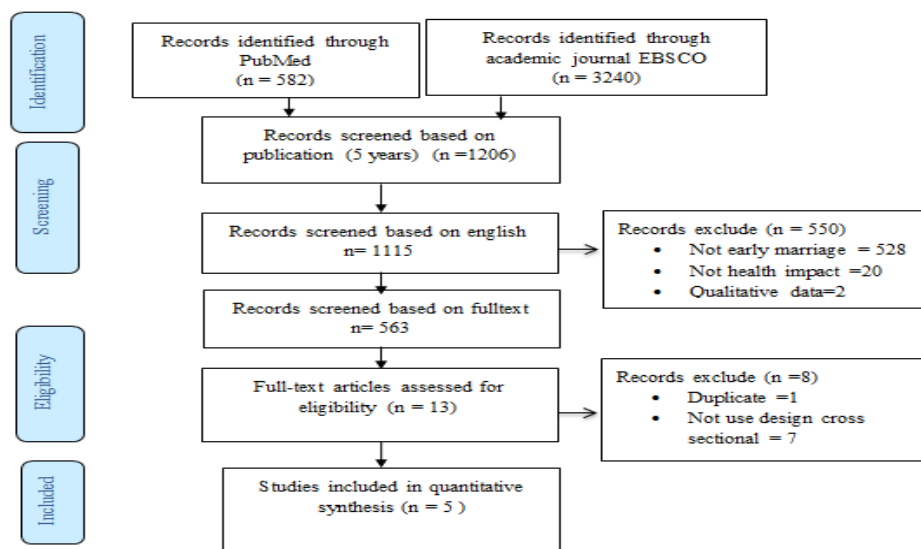


Figure 1. Preferred reporting items for systematic review and meta-analysis

We identified 5 studies for include in analysis (Table 1). There were 5 studies from high burden countries of child marriage such as bangladesh, subsahara africa, Nigeria, Ghana, and india. For research design, all of them use cross sectional studies. The studies show there are many health consequences of child marriage.

In Bangladesh there is a rule that the legal age at first marriage for men and women is 21 and 18 years. Based on research in Bangladesh, the survey gathered information from 17749 ever-married women aged 15 to 49 years old and 3997 men aged 15 to 54 years old from rural as well as urban areas covering all regions of the country. Overall, 77% of the marriages among women aged 20 to 49 years old took place before the age of 18 years. Findings revealed that after being adjusted for

sociodemographic factors, child marriage significantly ( $P < .001$ ) increases the likelihood of stillbirth/miscarriage (odds ratio [OR] = 1.80; 95% confidence interval [CI] = 1.45-2.24) and pregnancy termination (OR = 1.24; 95% CI = 1.12-1.38) (Kamal, Hassan, & Ma, 2015).

Study in sub-sahara africa shows data from 37,558 mother-child pairs identified through 16 national and sub-national cross-sectional surveys across sub-Saharan Africa conducted between 2010 and 2014 by the UNICEF Multiple Indicator Clusters Survey program. The Early Childhood Development Index was used to measure child development, and stunting was used to measure health. Using logistic regression, we found that the odds of being off-track for development and being stunted were 25% and 29% higher, respectively, for children born to women who marry before age 18 compared to those whose mothers married later ( $p < 0.0010$ ) (Efevbera & Farmer, P.E., Fink, 2017).

Result from a cross sectional study in Ghana show The sample consisted of 1349 ever-married women aged 20–29 years from 2497 households in the Northern and Upper East regions of Ghana. Child marriage in this sample was associated with increased odds of poorer health, as measured by difficulties in daily activities (OR = 2.08; CI 1.28–3.38 among women 20–24 years and OR = 1.58; CI 1.19–2.12 among women 20–29 years), increased odds of child mortality among first-born children (OR = 2.03; CI 1.09–3.77 among women 20–24 years) and lower odds of believing that one's life is determined by their own actions (OR = 0.42; CI 0.25–0.72 among women 20–24 years and OR = 0.54; CI 0.39–0.75 among women 20–29 years). Conversely, child marriage was associated with lower levels of reported stress (regression coefficient = - 1.18; CI -1.84–-0.51 among women 20–29 years) (Groot et al., 2018). In Ghana, the legal marriage age is 18 for girls and boys. However, they can marry as young as 16 with the consent of their parents (GNB, 2018)

The study was a cross sectional study of young girls in 21 secondary schools across the three geopolitical zones in Plateau state, Nigeria selected through a simple random sampling technique. Most of the married respondents (46%) said they were forced into marriage by their parents, followed by another 20.3 % who got married because they needed money to go to school. Effect of early marriage on health of girls are Sixty-eight (91.9%) of the married respondents had been pregnant since marriage and out of them, 37 (54.4%) had experienced a complication during pregnancy or delivery which was mostly excessive bleeding and anaemia (14% and 13% respectively), followed by obstructed/prolonged labour (10%) (Ea et al., 2016). in this case the Nigerian Constitution does not specify the minimum age of marriage. however, under the Law on the Rights of the Child, passed in 2003, sets the age of marriage at the age of 18 (GNB, 2018)

Data from the third round of National Family Health Survey (NFHS) carried out in India during 2005–2006. The survey covered a representative sample of 109,041 households, 124,385 women aged 15–49 years and 74,369 men aged 15–54 years. The study tells significantly higher proportion of women in the 'thin' category were married before 18 years, both in the Indian sample (33 %,  $p < 0.001$ ) and in the selected states, Andhra Pradesh (31 %,  $p < 0.001$ ) and Bihar (43 %,  $p < 0.001$ ), compared to those women married at higher ages. Similarly, across all our samples women whose first birth was before age 18 years also had a significantly higher probability of being in the 'thin' (Goli, Rammohan, & Singh, 2015). The legal age to marry India is 18 for women, 21 for men (GNB, 2018).

Marriage is an important event in the life cycle of a person and the foundation in the process of family formation. The age at marriage is particularly interesting because it marks the transition to adulthood in many societies; the point at which certain options in education, employment, and participation in society are confiscated; and the beginning of exposure to the risks of pregnancy and childbirth.

Policies on Minimum Age of marriage in each country vary. In Bangladesh and India there is a rule that the first marriage age for men and women is 21 and 18 years. In Ghana, the legal marriage age is 18 for girls and boys. However, they can marry as young as 16 with the consent of their parents. In Nigeria under the Law on the Rights of the Child, passed in 2003, sets the age of marriage at the age of 18. Meanwhile, in India the legal age to marry is 18 for women, 21 for men.

Although there is a rule in each country related to marriage, in its application there are still marriages under the age of 18 years. In this study will be presented Results of 5 journals that discuss about the health effects of child marriage. This can be used as additional information about health and public health that is currently also experienced in Indonesia.

Based on the study literature, many causes of child marriage. Girls children who live in rural areas are more likely to experience child marriage than urban, then poverty can also be the cause of young marriage. In addition, low education can also lead to child marriage.

#### 1. stillbirth / miscarriage

Studies in bangladesh show child marriage significantly increases the chances of stillbirth / miscarriage and termination of pregnancy (Kamal et al, 2015). Along with this, other studies also explain that early sex is common in children who cause complications from prolonged labor to difficult child birth. There are also married key words that apply to pregnancies that can cause maternal death and morbidity. Girls aged 10-14 times more likely in pregnancy or giving birth to women 20-24; girls aged 15-19 were twice as likely to die (Biresaw, 2014).

#### 2. Late child development or stunting

Based on research in Sub Sahara Afrika, they found that the possibility of being out of the way for development and that stunted respectively 25% and 29% higher, for children born of married women before the age of 18 years compared with those whose mothers were married later ( $p < 0.0010$ ). (Efevbera & Farmer, P.E., Fink, 2017)

#### 3. Mental health is worse

In Ghana, the norms in which girls and women are expected to begin giving birth to children soon after marriage. In this case the child bride tends to be given no choice to make a decision. our findings suggest that there is stress in children. Child marriage is associated with poorer mental health, such as suicide, lack of self-esteem and depression (Groot et al., 2018) Previous research says About one-third of women aged 15-24 in Pakistan report having husband-wife control and violence behavior by their husbands. Compared with adult marriages, child marriage is significantly associated with control behaviors, emotional abuse, and physical abuse (Velotti et al., 2015)

#### 4. Excessive bleeding

Study in Nigeria explains More than half (54.4%) of married respondents who have been pregnant have had complications during pregnancy or childbirth that are mostly excessive bleeding and anemia followed by delayed / prolonged labor, anemia has been linked to evidence teenage pregnancy. These findings suggest that

respondents face a high risk of pregnancy-related deaths that are the leading cause of death for girls aged 15-19 years (married and unmarried) worldwide (Ea et al., 2016). Previous studies have shown that respondents have begun to deliver children between 14 and 18 years and 71% have experienced at least one serious pregnancy or birth-related health problems that include excessive bleeding during labor (19.0%), delayed and / or prolonged labor (49, 0%), frequent miscarriage (12.0%) and pro fatigue disease after delivery (20%). In addition to this, of those who have experienced various health complications, 37 (26%) have been exposed to vesico-vaginal and recto-vascular fistulas and are in various stages of treatment (Adedokun Olaide A, Gbemiga E. Adeyemi, 2011)

#### 5. Malnutrition

Our results show the great adverse effects of early marriage and early childbirth on the nutritional status of women in India and for our selected states. Most of the women who married before marriage at the age of marriage and consequently exposed to early pregnancy, found less nutritional (thin) relative to women married in old age. The analysis also showed that in all our models, married women at age 25 and older had the highest probability of having normal nutritional status (Goli et al., 2015) Other studies showed pregnant women who married before their age of eighteen, who came from households who did not safe food, and who had a low dietary diversity score of nearly four (AOR = 3.9, 95% CI: 2.2-6.9), two (AOR = 2.3, 95% CI: 1.2-3 , 6), and two (AOR = 2.1, 95% CI: 1.3-4.16) were more likely to be malnourished than their counterparts, respectively (Nigatu, Gebrehiwot, & Gemed, 2018).

### CONCLUSION

Child marriage is a problem that has health consequence. We conclude that there are many health consequences such as increases the likelihood of stillbirth/miscarriage, late child development or stunting, Mental health is worse, excessive bleeding, and many women in the 'thin'/malnutrition category were married before 18 years.

Prevent the occurrence of child marriage, should the child be given education related to the impact of child marriage. Besides that, can be made permission to marry rules over 18 years. The government can also provide assistance for education and motivate children to continue their school in order to delay the age of marriage in children. health-related children should be given nutritious food in accordance with their needs and drink iron tablets in order to avoid anemia that also affects the pregnancy in the future. For future research can continue research on the health consequences of child marriage with other research methods and other country.

### ACKNOWLEDGEMENT

The authors would like to express our very great appreciation to Prof DR. Adik Wibowo, MPH for her valuable and constructive suggestions during the planning and development of this manuscript. Her willingness to give her time so generously has been very much appreciated. We would also like to thank Ms. *Septiara Putri*, S.K.M., M.P.H for her advice and assistance in keeping our progress on schedule. Our grateful thanks are also extended to Mr. Fikri Wijaya, S.Sos for this help in manuscript.

---

## REFERENCES

- Adedokun Olaide A, Gbemiga E. Adeyemi, C. D. (2011). Child Marriage and Maternal Health Risks among Young Mothers in Gombi, Adamawa State, Nigeria: Implications for Mortality, Entitlements and Freedoms. *african health sciences*, 16(December), 1–27. <https://doi.org/10.4314/ahs.v16i4.15>
- Biresaw, G. (2014). Implications of early marriage in Ethiopia. *The Ahfad Journal*, 31(1), 79–86. Diambil dari <http://web.a.ebscohost.com/ehost/pdfviewer/pdfviewer?vid=0&sid=8bfdd5e4-a47e-4482-a72f-121528442bad%40sessionmgr4006>
- Ea, E., Rj, U., No, I., Ia, O., Eo, O., & Ai, Z. (2016). Determinants and effect of girl child marriage: a cross sectional study of school girls in Plateau State, Nigeria. *International Journal of Medicine and Biomedical Research*, 5(3). Diambil dari [www.ajol.info/index.php/ijmbr/article/view/150859](http://www.ajol.info/index.php/ijmbr/article/view/150859)
- Efevbera, Yb., & Farmer, P.E., Fink, G. (2017). Girl child marriage as a risk factor for early childhood development and stunting. *Social Science & Medicine*. <https://doi.org/10.1016/j.socscimed.2017.05.027>
- GNB, (2018). Indonesia. Access from: <https://www.girlsnotbrides.org/child-marriage/indonesia/>
- GNB. (2018). Child marriage around the world. access from: <https://www.girlsnotbrides.org/where-does-it-happen/>
- GNB. (2018). Ghana, legal age of marriage.access from: <https://www.girlsnotbrides.org/child-marriage/Ghana/>
- GNB. (2018). India, legal age of marriage.access from: <https://www.girlsnotbrides.org/child-marriage/india/>
- GNB. (2018). Nigeria, legal age of marriage.access from: <https://www.girlsnotbrides.org/child-marriage/Nigeria/>
- Goli, S., Rammohan, A., & Singh, D. (2015). The Effect of Early Marriages and Early Childbearing on Women ' s Nutritional Status in India. *maternal child health journal*, 1864–1880. <https://doi.org/10.1007/s10995-015-1700-7>
- Groot, R. De, Kuunyem, M. Y., & Palermo, T. (2018). Child marriage and associated outcomes in northern Ghana: a cross-sectional study. *BMC Public Health*, 1–12. Diambil dari <https://www.ncbi.nlm.nih.gov/pubmed/29482546>
- Hotchkiss, D. R., Godha, D., Gage, A. J., & Cappa, C. (2016). Risk factors associated with the practice of child marriage among Roma girls in Serbia Health and human rights of marginalized populations. *BMC International Health and Human Rights*, 16(1), 1–10. <https://doi.org/10.1186/s12914-016-0081-3>
- Kamal, S. M. M., Hassan, C. H., & Ma, D. (2015). Child Marriage and Its Association With Adverse Reproductive Outcomes for Women in Bangladesh. *asian pasific journal*. <https://doi.org/10.1177/1010539513503868>
- Nigatu, M., Gebrehiwot, T. T., & Gemed, D. H. (2018). Household Food Insecurity ,

---

Low Dietary Diversity , and Early Marriage Were Predictors for Undernutrition among Pregnant Women Residing in Gambella , Ethiopia. *Advances in Public Health*, 2018(1350195), 10.  
<https://doi.org/https://doi.org/10.1155/2018/1350195>

UNICEF, (2018). Child marriage. [available on: https://www.unicef.org/protection/57929\\_58008.html](https://www.unicef.org/protection/57929_58008.html)

UNICEF, (2015). Sustainable Development Goals. [available on: https://sustainabledevelopment.un.org/?menu=1300](https://sustainabledevelopment.un.org/?menu=1300)

UNICEF. (2018). Child Marriage Among Girls. [Avalibale on: https://data.unicef.org/topic/child-protection/child-marriage/](https://data.unicef.org/topic/child-protection/child-marriage/)

Velotti, P., Balzarotti, S., Tagliabue, S., English, T., Zavattini, G. C., & Gross, J. J. (2015). Emotional suppression in early marriage: Actor, partner, and similarity effects on marital quality. *Journal of Social and Personal Relationships*, 33(3), 277–302. <https://doi.org/10.1177/0265407515574466>