Journal of Midwifery &
Reproductive Health

JMRH.mums.ac.ir

Reproductive and Sexual Health Consequences of Child Marriage: A Review of literature

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ARTICLE INFO

Article type:
Review article

Article History:
Received: 04-May-2018
Accepted: 28-Jul-2018

Key words:
Child marriage
Reproductive health
Sexual health
Maternal mortality

ABSTRACT

Background & aim: Child marriage, which defined as a formal marriage or informal union before the age of 18 years, occurs widely throughout the world. Child marriage directly impacts girls' education, reproductive and sexual health, as well as psychological well-being. In this regard, the current review was conducted to examine the reproductive and sexual health consequences of child marriage.

Methods: This review was conducted by searching the scientific databases including PubMed and Google Scholar as well as websites of various international organizations active in reproductive health issues between 1946 and 2018. Key words for searching included "Child marriage ", "early marriage ","sexual health", "reproductive health", and "maternal mortality ". Published articles and also publications of International Planned Parenthood Federation (IPPF), United Nations International Children's Emergency Fund (UNICEF), World Health Organization (WHO) and Center for Reproductive Rights (CRR) were reviewed.

Results: Child marriage as a result of poverty has many adverse consequences on reproductive and sexual health of girls. These include death during childbirth, physical and sexual violence, isolation, depression, cervical cancer and risk of sexually transmitted diseases (STD). Teen pregnant women are at high risk of preterm birth as well as neonatal death more than other women.

Conclusion: Girls' marriage at an early age can increase the risk of sexual and reproductive complications. Therefore, training programs should be implemented to increase the awareness of society, parents, and religious leaders, to empower girls in this regard.

► *Please cite this paper as*:
Irani M, Latifnejad Roudsari R. Reproductive and Sexual Health Consequences of Child Marriage: A Review of literature. 2019; 7(?): 1-7. DOI: --------------------------

Introduction

Child marriage in girls is defined as a formal marriage or informal union before the age of 18 years. The girls involved in child marriage typically have older husbands and less safe sexual relationships than their unmarried peers (1-3). More than 60 million girls are involved in child marriage across the world (4). The rate of this practice extensively varies in different countries. According to the statistics, Africa and western Europe have recorded the highest and lowest rates of child marriage (5) (Figure 1).

According to the literature, although the reasons for child marriage depend on the culture and context-specific norms, poverty is a common cause (2, 3, 5). Once girls marry, parents are released of the financial duty of educating them and occasionally acquire financial profits from bridegroom. Parents may be interested in urging their girls to marry to evade the increasing budget of the wedding gift and prevent the risk of losing the chance to find an appropriate husband for their daughters in

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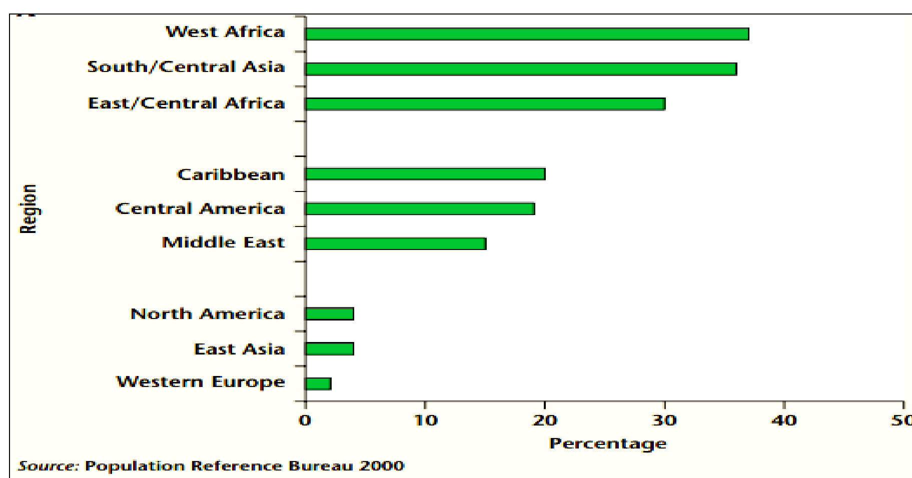

Figure 1. Percentage of girls married under the age of 18 years

the future.

Another reason for this parental inclination to early marriage is that younger age is considered as a value by the bridegroom and his family because they assume that the girls of younger ages are more likely to be virgin. Accordingly, the great value located on girl's virginity encourages families to marry their girls at early age because they assume that the earlier the girl is married, the earlier she is protected from non-marital sexual behavior or non-marital pregnancy.

In some cultures, when daughters marry too late, they should undergo some examinations to prove their sexual purity, and their family's fame is damaged. In some settings, ancestors use marriage between adolescents to shape tactical links with other people or ethnic groups (6-8).

Child marriage has important health effects on both young mothers and their children. Based on a number of studies, married young girls confront important reproductive and sexual health vulnerabilities (9). Furthermore, the marriage of children exposes girl's development to serious threats by hindering them from education and working (4, 10). With this background in mind, the present review study was conducted to examine the reproductive health consequences of early marriage.

Materials and Methods

This narrative review was performed on the articles published during 1946-2018 using several scientific databases, including Google Scholar, PubMed, websites of various international organizations active in reproductive health issues, International Planned Parenthood Federation (IPPF), United Nations International Children's Emergency Fund (UNICEF), World Health Organization (WHO), and Center for Reproductive Rights (CRR). The search process was conducted using the following keywords: "Child marriage", "Early marriage", "Sexual health", "Reproductive health", and "Maternal mortality".

Results

Based on the reviewed articles, the different outcomes of sexual and reproductive health related to child marriage can be categorized as follows:

Vulnerability to Sexually Transmitted Infection/HIV

According to a public belief, child marriage can prevent mortality and morbidity among female adolescents. On the contrary, this belief is not true since marriage at young age increases the possibility of STD, specifically HIV and human papilloma virus (HPV) (11). Females are 2-3 times more at risk of HIV infection from just one unprotected sex session, compared to males.

In addition, the highest prevalence rate of HIV infection is observed in women within the age range of 15-24 years, whereas the peak of

this risk for men occurs 5-10 years later (12, 13). This findings can be confirmed by the fact that women might be more physically liable to HIV infection at younger ages due to the non-coverage of the lining of the vagina with protective cells and their easily damaged cervix.

Increased HIV transmission rate may also be due to cervical or vaginal tears through having sexual relationships with men, whose HIV has been confirmed. Accordingly, young females are vulnerable to HIV owing to the presence of STDs, including chlamydia, gonorrhea, and herpes simplex type II (14, 15).

Cervical Cancer

One of the main causes of cervical cancer is child marriage. The HPV is a common sexually transmitted infection (16-18). Africa has a significantly high prevalence of cervical cancer even though most of the females in this region are unable to receive effective screening for HPV or cervical cancer. Husbands with multiple previous sexual partners, child marriage, low socioeconomic status, and poor access to health care services are among the prevalent causes of cervical cancer. According to the literature, cervical cancer is the most prevalent type of cancer among females in Mali, West Africa. In addition, this type of cancer has an age-adjusted incidence rate of 24.4 per 100,000 individuals and is recognized as the second leading cause of mortality due to cancer (19).

In a case-control study conducted on 200 donors with and without cervical cancer with the mean age at marriage of 15 years, HPV was observed in 40% and 97% of the subjects in the control and case groups, respectively. In the mentioned study, the recognized risk factors were polygamous husbands, high parity, substandard genital hygiene, and child marriage. Similar results were obtained in a study performed in Morocco, North Africa (20), where risk factors for cervical cancer were reported to be child marriage, high parity, substandard genital hygiene, and consumption of oral contraceptives for a long time.

Family Planning

In 2009, Raj reported a significant relationship between child marriage and variables of pregnancy termination, surgical sterilization, contraceptive consumption before the first child delivery, several unwanted pregnancies, re-pregnancy at less than two-year intervals, and high fertility rate. Even after controlling for marriage duration, child marriage showed a significant correlation with repeated child delivery with less than 24-month intervals, high fertility, sterilization, pregnancy termination, and multiple unwanted pregnancies (1).

Unintended Pregnancy

The reviewed studies demonstrated a relationship between unintended pregnancy and child marriage. In a study carried out on women within the age range of 20-24 years, married at young ages in India, early-married females were 1.7 times more likely to have unwanted pregnancy, compared to their late-married counterparts. This finding was obtained regardless of screening for confounding factors, including the level of education, household economic status, place of residence, and religion. Moreover, these women were at higher risk of multiple unwanted pregnancies (1).

In a study performed in Bangladesh, South Asia, girls who married under the age of 18 years had more unintended pregnancies than their late-married peers (21). Likewise, in another research performed on married pregnant females in Nepal, South Asia, about half (46%) of the subjects, who were married at the age of < 16 years had unintended pregnancy, compared to those (36%) who got married at the age of ≥16 years. This correlation was reported to be significant by the multivariate analysis (odds ratio [OR]: 0.94) (22).

Physical and Sexual Violence

According to the results of the retrieved articles, the girls involved in child marriage are at a high risk of sexual and physical violence, which could result in a number of adverse reproductive and sexual outcomes (23). In this regard, in a study, the women married at young ages were reported to be 1.8 and 1.5 times more likely to be subjected to physical or sexual violence and have increased risk of violence during the 12 months after the interview, compared to those who got married at older ages (24).

Similarly, in another study, the women married at older ages were exposed to lower risk of physical (OR: 0.63) and sexual (OR: 0.73) violence as compared to the females married at younger ages (25). Accordingly, the highest domestic violence rate in India was observed in women (67%), who were married at the age of 18 years (26).

Generally, there is an extremely uneven power dynamics between the males and females mainly because of their age gap. The females who lack decision-making abilities constantly deal with harassment by their husbands and in-laws, and are socially isolated. According to the National Family Health Survey, married women have significantly low decision-making ability since just 52.5% of their opinions are considered in household decisions. Moreover, marriage at young ages leads to failure in understanding oneself due to the lack of progress in personal and social skills. Therefore, these women would grow fully dependent on their husband and become unable to stand against the violence of their spouse (27).

Risks during Pregnancy

Complications, such as preeclampsia, sepsis, and hemorrhage, expose young females (under the age of 15 years) to the risk of mortality five times more than those married in their twenties (28). In addition, in a study, young mothers were reported to be 2-5 times more at risk of maternal mortality, compared to adult mothers (29). Likewise, in another study, mothers aged 15-19 years were demonstrated to be three times more at risk of maternal mortality (30).

Based on the evidence, for every case of mortality during childbirth, 30 other mothers experience disabilities, infections, and injuries that are mostly left untreated (6). The high rates of mortality are subsidiary to eclampsia, postpartum hemorrhage, obstructed labor, HIV infection, malaria, and sepsis. Due to the divorce of females in Yemen, the legal age for marriage increased from 15 to 18 years in this country, which led to filing for divorce by several young married women (31).

Risks during Labor and Delivery

In a child marriage, there might be too many deliveries, either too soon or late (32).

According to the evidence, 42% and 45% of girls in Uganda and Mali and 25% of the girls aged 10-15 years had small pelvises and were not prepared for childbearing. In addition, 88% of the females had a risk of obstetric fistula (33).

Neonatal Risks

Based on the studies, women below the age of 18 years have 35-55% higher risk of delivering low-birth-weight or preterm neonates, compared to those above the age of 19 years. In addition, they have a higher rate of neonatal mortality (60%). Even if the neonates survive the first year, there is a higher rate (28%) of mortality in infants (aged<5 years) among young mothers (34). Generally, the high risks of mortality and morbidity in young mothers are due to their emotional and physical immaturity, poor nutrition, lack of access to reproductive and social services, as well as higher risk for infectious diseases (31).

Moreover, young mothers have inadequate decision-making and parenting skills and give birth to underweight or premature neonates (35). In a study, health problem was reported as the most significant factor for seeking care in young mothers. Young women cannot decide about their health care issues since their spouses and in-laws intervene with their decisions in this regard. In other words, these females lack decision-making abilities (32).

Isolation and Depression

After marriage, women move to the house of their spouse either in rural or urban areas and play the roles of a wife, a housekeeper, and finally a mother. Considering the high dowry payment, there is a big age gap between the men and their wives (thereby having little in common), and men expect their spouses to be fertile. The residents of some regions even accept polygamy, which leads to women's isolation, rejection, and depression. Some women have accepted that childbearing and adaptinf the new environment are crucial factors for their survival. In addition, these individuals lose the chance to enjoy their childhood, receive education, and make friends (31).

Discussion

As the results of the reviewed studies

indicated, females' sexual and reproductive health is compromised by early marriage in a variety of ways. In addition, it is reported that not only the mothers, but also their infants are exposed to the adverse outcomes of child marriage. These outcomes include the delivery of low-birth-weight neonates, fetal mortality, pregnancy-related complications, physical and sexual violence, unintended pregnancy, and preterm delivery. Nevertheless, conflicting results were obtained regarding some other outcomes, including early childhood and neonatal mortality, as well as risk of HIV infection. Therefore, further evaluations are required to assess the health outcomes of early marriage.

Child marriage is associated with extensive social, political, economic, and health implications for females and their community. In addition, this type of marriage leads to shortened childhood in females, who are unable to recognize their human rights. Moreover, child marriage increases the risk of psychological and physical problems.

In a study performed in Barua, Maharashtra, India, fertility protection, lack of expressing sexual health issues due to embarrassment, and household chores were among the most significant factors affecting care-seeking behaviors in females. Generally, women's health decisions are made by their spouses and in-laws. In other words, women lack the ability to decide about their health issues (36). The termination of child marriage requires obtaining the consent of relevant agents (e.g., fathers, community, tribal leaders, and religion). In addition, educational programs must be designed to improve the ability of women regarding the breaking of the poverty cycle.

The Millennium Development Goals delineated a vision in 2000 that obligated the society members to eliminate life-threatening hunger and poverty, provide children with primary education, strengthen female empowerment, decrease childhood mortality, enhance maternal health, deal with malaria and HIV/AIDs, guarantee the feasibility of the environment, and establish an international partnership by 2015. Child marriage is affected by the majority of these objectives. According to the evidence, while there have been developments in this regard, the highest level of barriers is observed in sub-Saharan, Africa (37).

However, there has been a decrease in the rate of child marriage in some countries. It is notable that economic enhancement is partly obtained by the increased mean age of marriage. The reduced level of poverty in countries of Taiwan, Korea, and Thailand has resulted in a lower rate of child marriage, thereby allowing these nations to have the chance of employment and education and receive more adequate health care services (38).

Early marriage, pregnancy, childbirth, and sexual activities can be delayed by education. The number of child marriages might be directly or indirectly decreased by some of the programs designed to focus on the condition of females. Educational and economic opportunities have been provided for female individuals and their families by the implementation of effective programs. These program are targeted toward delaying marriage (38), providing families with financial motivations so that their daughters could continue their education, and supplying food for children at schools in order to reduce the family household expenses.

The continuation of education and attendance at vocational training courses protect females against early pregnancy, diseases, HIV infection, and mortality. Moreover, they can have a promoted socioeconomic status by earning better salaries. Educated women are more probable to be able to decide on choosing a life partner and have an acceptable level of welfare and health (8). In this regard, in a randomized controlled trial, Beattie reported that the continuation of education for females increased their age at the first intercourse and marriage and reduced their HIV infection risk (39).

Moreover, retention in school and rates of STI and HIV can be elevated and reduced by conditional and unconditional cash transfers, respectively (40). Not only can education delay marriage, pregnancy, and childbirth, but also school-based education about intercourse can positively change the females' attitudes and awareness regarding the control of high-risk sexual behaviors in marriage (31). This review study summarized the available documentations about the reproductive and sexual health consequences of child marriage as a common practice in the world. However, the lack of

access to all related articles is one of the limitations of this study.

Conclusion

A multi-sided policy is required to cease child marriage by focusing on females, their families, as well as community and government. In this respect, culture-based programs can provide families and communities with reproductive health education and services, thereby contributing to the termination of child marriage, early pregnancy, and its associated maternal and neonatal morbidities and mortalities.

Acknowledgements

The authors thank all librarians at the Central Library of Mashhad University of Medical Sciences, Mashhad, Iran, who provided the access to scientific resources. No external funding was received for this project.

Conflicts of interest

The authors declare no conflicts of interest.

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