

Original Research Article

Determinants and impact of early marriage on mother and her newborn in an urban area of Davangere: a cross-sectional study

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ABSTRACT

Background: Early marriage is a long established custom in India. In spite of the legislations prohibiting early marriages, the prevalence of child marriages in our country is 30.2%, with the highest prevalence in Rajasthan (35.4%) and lowest in Himachal Pradesh (0.5%). Thus, this study was undertaken to study the prevalence, determinants and impact of early marriage on the mother and her newborn in an urban area of Davangere.

Methods: A cross-sectional study was conducted over a period of 6 months in the Urban Family Welfare Centre, Doddapete. A total of 900 mothers were interviewed with the help of pre- designed and semi-structured questionnaire after taking informed consent.

Results: The prevalence of child marriage in the present study was found to be 13% with 81% mothers belonging to lower socio- economic status and 77% belonging to Muslim religion. Most (62%) mothers married before the age of 18 years due to economic reasons. 54% of the mothers who married before the age of 18 years faced complications during delivery. 6% of the mothers married before the age of 18 years gave birth to low birth weight babies.

Conclusions: The literacy and socio-economic status of the mother and her parents was observed as a major determinant in deciding the age at marriage. In spite of the prevailing religious traditions and socio-cultural influences that promote child marriage, an attempt should be made to educate the community regarding the medical and legal aspects of early marriage.

Keywords: Early marriage, Literacy, Socio-economic status, Legislations, Impact of early marriage

INTRODUCTION

Child marriage refers to marriage of a child younger than 18 years old (in accordance to article 1 of the Convention of the Right of the child, November, 1989).¹

Early marriage is a long-established custom in India, with children married off before their physical and mental maturity. The problem of child marriage in India remains rooted in a complex matrix of religious traditions, social practices, economic factors and deeply rooted prejudices.²

In many communities, child marriage is a long-standing tradition, since a delayed marriage would not be acceptable to the community. Getting a daughter married early may also be seen as a mean of ensuring her and her family's safety. Sexual abstinence and virginity are also considered important values that if not protected will affect the family honour. Moreover, in families where parents cannot provide daughters a safe socio-economic space to live and grow into a confident and self-sufficient independent individual, child marriage takes priority over education as a mean of protection from risks such as physical and economic abuse.³

Regardless of its roots, child marriage constitutes a gross violation of human rights, leaving physical, psychological and emotional scars for life. While marriage is not considered directly in the convention on the rights of the child, child marriage is linked to other rights such as right to express their views directly, the right to protection from all forms of abuse and the right to be protected from harmful traditional practices.¹ Sexual activity starts soon after marriage, and pregnancy and childbirth at an early age can lead to maternal as well as infant morbidity and mortality.

Early marriage adversely affects the health of the mother and her newborn. Complications of pregnancy and childbirth are the leading cause of death in young women aged 15-19.⁶ Perinatal deaths are 50% higher among babies born to mothers under 20 years of age than among those born to mothers aged 20 to 29. The newborns of these mothers are also more likely to have low birth weight, with the risk of long-term effects.⁴

A number of legislations have been enacted related to age at marriage. As early as 1929, the 'Sarda Act' was enacted legalizing the age at marriage to 14 years for girls and 18 years for boys. The act was amended in 1949 and 1978 to raise it further to 15 years & 18 years for girls and 18 years & 21 years for boys respectively. In spite of the legislations prohibiting early marriages, the prevalence of child marriages in our country is 30.2%, with the highest prevalence in Rajasthan (35.4%) and lowest in Himachal Pradesh (0.5%).⁵ The prevalence in Karnataka is 23.2% with the prevalence in urban and rural Karnataka being 17.9 % and 27% respectively.⁶

Hence this study was undertaken with the objective to know the determinants and impact of early marriage on the mother and her newborn in an urban area of Davangere.

METHODS

Research setting: The study was conducted in urban family welfare centre (UFWC), Doddapete, Davangere. This district is located in the central part of Karnataka, around 250 kms from the state's capital (Bengaluru). The UFWC caters to a total population of about 45,600 by providing preventive, curative and rehabilitative health care services.

Study design: It is a cross-sectional descriptive study.

Study population: Mothers attending the outpatient department (OPD) of urban family welfare centre (UFWC) were interviewed for the study. Institute's ethical committee approved the study and an informed verbal consent was taken from every respondent before conducting the interview.

Duration of study: The study was completed in a period of 6 months i.e. from May 2016 to October 2016.

Sample size

The sample size was calculated using the formula,

$$N = Z^2 \alpha / 2 PQ / L^2$$

where, $Z_{\alpha/2} = 1.96$, Value of the standard normal variate corresponding to level of significance alpha 5%. Thus,

$$N = (1.96 * 1.96) PQ / L^2 = 4 PQ / L^2$$

According to NFHS-4 (2015-16), the prevalence of early marriage in Urban Karnataka is 17.9%⁶, so taking 17.9% as the prevalence (P) and 15% as the allowable error (L), we calculated a sample size of 815 mothers. Considering 10% drop outs, a total of 897 \approx 900 mothers were interviewed for the quantitative study.

Inclusion criteria

During the study period all the mothers attending the UFWC OPD were interviewed. The interview was conducted twice a week till the required sample size was reached.

Exclusion criteria

Mothers not consenting to be a part of the study were excluded.

Method of collection of data

The study subjects were interviewed with the help of pre-designed semi-structured questionnaire after taking verbal consent. Information was collected regarding the socio-demographic profile of the mothers which included present age, age at marriage, education status of the mother and her parents, socio-economic status, religion and factors associated with early marriage. Information was also collected regarding impact of early marriage on mother and newborn health such as increased incidence of birth related complications, low birth weight baby and NICU admissions.

Statistical analysis

Data was entered & analyzed in MS Excel spread sheet. Proportions and Chi-square test was used.

RESULTS

The present cross-sectional study included 900 mothers. Among these, majority (40%) were in the age group of 21-24 years. The socio-cultural determinants were also evaluated in this study. Majority (38%) of the mothers in our study had completed schooling up to intermediate school. Religious views in our society have a strong impact on our behaviour and practices. In our study, 65% mothers belonged to Muslim religion. In the present

study, 75% of the mothers were unemployed and 82% were residing below poverty line (Table 1).

The prevalence of early marriage in our study was found to be 13%. It was observed in our study that majority (37%) of the mothers who got married before the age of 18 years had completed schooling only up to primary school, whereas majority (29%) of the mothers who got married at a later stage had completed education up to intermediate school. Also 81% mothers who were residing below poverty line got married before the age of 18 years as compared to 70% mothers residing above poverty line. This difference was found to be statistically significant (Table 2).

The education of the woman is directly affected by her parents' educational and socio-economical status. In our study, majority of the mothers who got married before the age of 18 years had illiterate parents (46% fathers and 77% mothers). This difference was found to be highly statistically significant, thus emphasizing the importance of educational status of parents in determining the age at marriage of the child (Table 2).

It was observed in the present study that majority (62%) of the mothers said that lower socio-economic status was the most important determinant of early marriage as it is

the perception of the parents that marriage can provide financial and social security to their daughters (Figure 1).

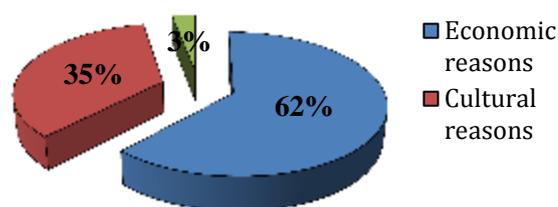


Figure 1: Reasons for early marriage.

Early marriage not only affects the psychological and sexual health of the girl child but also leads to increased maternal and neonatal morbidity. It was observed in our study that majority (62%) of the mothers who got married before the age of 18 years delivered by caesarean section as opposed to only 5 % of mothers who got married after the age of 18 years. It was observed in our study, that 15% of mothers who got married before the age of 18 years reported complications in their newborn as opposed to only 1% of mothers who got married at a later stage. The most common complication seen in the newborn was low birth weight (LBW) (Table 3).

Table 1: Distribution of mothers based on socio demographic characteristics (n=900).

Characteristics	n (%)
Age	
<18 years	9 (1)
18-20 years	117 (13)
21-24 years	360 (40)
25-29 years	297 (33)
>30 years	117 (13)
Education	
Illiterate	36 (4)
Primary school	63 (7)
Middle school	108 (12)
High school	279 (31)
Intermediate/PUC/Diploma	342 (38)
Graduate	45 (5)
Post graduate	27 (3)
Religion	
Hindu	585 (65)
Muslim	315 (35)
Occupation	
Unemployed	675 (75)
Unskilled worker	0
Semiskilled	63 (7)
Skilled	72 (8)
Clerical	90 (10)
Semi profession	0
Profession	0
Socio-economic status	
Above poverty line	162 (18)
Below poverty line	738 (82)

Table 2: Association between age at marriage and some selected socio-economic variables.

Variables	Age at marriage		P value
	< 18 years	>18 years	
Respondent's education			
Illiterate	12 (10)	16 (2)	0.016
Primary school	43 (37)	180 (23)	
Middle school	30 (26)	203 (26)	
High school	28 (24)	227 (29)	
Intermediate/PUC/Diploma	4 (3)	141 (18)	
Graduate	0 (0)	16 (2)	
Post graduate	0 (0)	0 (0)	
Father's education			
Illiterate	54 (46)	55 (7)	0.001
Primary school	27 (23)	227 (29)	
Middle school	35 (30)	203 (26)	
High school	1 (1)	251 (32)	
Intermediate/PUC/Diploma	0 (0)	39 (5)	
Graduate	0 (0)	8 (1)	
Post graduate	0 (0)	0 (0)	
Mother's education			
Illiterate	90 (77)	361 (46)	0.013
Primary school	13 (11)	203 (26)	
Middle school	5 (4)	86 (11)	
High school	9 (8)	86 (11)	
Intermediate/PUC/Diploma	0 (0)	39 (5)	
Graduate	0 (0)	8 (1)	
Post graduate	0 (0)	0 (0)	
Religion			
Hindu	27 (23)	446 (57)	0.059
Muslim	90 (77)	337 (43)	
Socio-economic status			
Above poverty line	22 (19)	235 (30)	0.668
Below poverty line	95 (81)	548 (70)	

Table 3: Association between age at marriage and its impact on health of the mother and newborn.

Impact on maternal and newborn health	Age at marriage		p value
	< 18 years	>18 years	
Mode of delivery	n (%)	n (%)	
Caesarean section	73 (62)	39 (5)	0.001
Vaginal delivery	44 (38)	744 (95)	
Complications during/after child birth			
Ante partum/postpartum haemorrhage			
Present	22 (19)	63 (8)	0.0006
Absent	95 (81)	720 (92)	
Prolonged labour			
Present	5 (4)	8 (1)	0.01
Absent	112 (96)	775 (99)	
Complications in the newborn			
Present	18 (15)	8 (1)	<0.00001
Absent	99 (85)	775 (99)	
Low birth weight babies			
Yes	7 (6)	8 (1)	0.0004
No	110 (94)	775 (99)	
NICU admissions (due to LBW, Preterm birth)			
Yes	2 (2)	0 (0)	0.016
No	115 (98)	783 (100)	
Total	117	783	900

DISCUSSION

Child marriage, maternal and newborn health are inextricably linked. Early marriage not only exploits the basic human rights of the girl child but also leads to deleterious effects on her health during pregnancy and childbirth.

It was observed in our study that 13% of the women were married before the age of 18 years. This figure is lower compared with NFHS-4 data for the state of Karnataka among the urban population (17.9%).⁶ This might be due to the fact that data has been collected from a limited geographical location in this study (catchment area of UFWC, Doddapete).

Early marriage reduces the chances of the woman completing her education and thereby, minimising her chances of earning her livelihood. This leads to a vicious cycle of poverty and low literacy levels coupled with religious, societal and cultural influences which lead to higher prevalence of early marriages. In our study 37 % of mothers who got married before the age of 18 years had completed schooling only up to the primary school whereas 46% and 77% had illiterate fathers and mothers respectively. This was comparable to a study conducted by Sah RB et al wherein 65% of women who got married before the age of 18 years were educated below SSLC.⁷ A study carried out in Bangladesh has shown that one year of delay in marital age would have increased female years of schooling by 3 years and probably lead to 6.5% higher female literacy.⁸

It was observed in our study that 81% of mothers who lived below poverty line⁹ got married before the age of 18 years. Similar observations were made by a study conducted by Sah RB et al (82.9%).⁷ The association of poverty and early marriage has been emphasized by Jennifer Birech where it is quoted that in the presence of acute poverty, a young girl may be seen as an economic burden, when purchased will relieve the family financially and socially.¹ Hence, marriage is considered a transaction, a significant economic activity for the family without considering its impact on the young woman.

Our study revealed that besides poor socio-economic status being the major determinant (62%) for early marriages, 35% of mothers got married early due to cultural reasons which included religious and familial influences. This finding is supported by a study done by Subramanian et al which revealed that 23% of the study respondents got married at a younger age (i.e., younger than 17 years) due to either parental compulsion, traditional family practices, or compulsion by the relatives.¹⁰ This finding further strengthens the urgent need to improve literacy levels of the girl child thus making her self sufficient, as an important strategy to prevent early marriage.

Evidence shows that girls who marry before the age of 18 years are more likely to experience unwanted pregnancies and are at higher risk of sexual and reproductive health morbidities and maternal mortality. It was observed in our study that 62% of mothers who got married before the age of 18 years delivered by caesarean section as compared to only 5% mothers who got married at a later age. Similar observations were made in a study conducted by Ibrahim Isa Ayuba et al where 31.3% women who became pregnant in their teens delivered by caesarean section as compared to 17.8% among the non-teen mothers.¹² This might be due to the fact that anatomic immaturity of the reproductive tract in a younger woman may lead to higher proportions of cephalopelvic disproportions thus increasing the chances of instrumentation/caesarean section during delivery.

It was observed in our study that 19% mothers who got married before the age of 18 years experienced bleeding related complications during childbirth such as ante partum and postpartum haemorrhage. Similar observations were made in a study conducted by Envuladu EA et al where 37.9% mothers who got married at an early age reported excessive bleeding during and after childbirth.¹³

The adverse effects of adolescent childbearing also extend to the health of their newborn. Perinatal deaths are 50% higher among babies born to mothers under 20 years of age than among those born to mothers aged 20 to 29.¹⁴

It was observed in our study that 15% of mothers who got married before the age of 18 years reported complications in the newborn, the most common complication being low birth weight.(6%) This was in accordance to a study conducted by Agarwal N et al which reported that low birth weight babies were more common to mothers with an age of less than 20 years (30.8%) as compared to mothers above 20 years of age (25.3%).¹⁵ This can be explained by the fact that adolescent girls are more vulnerable to social and health related risks, including increased rates of poverty, maternal depression and malnutrition. These factors coupled with lack of awareness regarding health facilities increase the rates of adverse pregnancy outcomes in these mothers.

CONCLUSION

The prevalence of early marriage in this study is 13%. The study concludes that majority of the mothers who got married before the age of 18 years had completed education only up to primary school, had illiterate parents and were residing below poverty line. The most common reason cited for early marriage was poor socio-economic status.

The study also shows that majority of the mothers married at an early age experienced complications during delivery including higher incidence of caesarean section. Also the prevalence of complications related to newborn

health such as low birth weight and NICU admission at birth was higher among mothers married before the age of 18 years.

Recommendations

There is a need to promote adult literacy with special emphasis on female literacy. Women need to be empowered not only on the societal level by educating them and making them self sufficient by giving them various employment opportunities, but also at the level of the family where they are given an opportunity to be part of the decision making process. Also there is a need to educate the community with special emphasis on the religious leaders, regarding the ill effects of early marriage and the legislations in place prohibiting early marriage. The community should also be made aware about the child welfare committees (CWCs) operational in the concerned area so that they can report any incidence of early marriage to the right authorities for the necessary action.

Limitations

The total sample size of women who got married before the age of 18 years in our study is small (117). Hence we have not encountered any mothers with complications like pre-eclampsia, anaemia and preterm delivery which are very common in mothers getting married at an earlier age. Also no cases of perinatal or neonatal mortality have been reported. Thus, further research can be done with a larger sample size to throw light regarding the prevalence of such complications among mothers and their newborn.

Scope for further research

As the present study only looks at the impact of early marriage on the health of the mother and the newborn further studies can be undertaken which look at the impact of early marriage on the psychological and social well being of the woman.

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