An Epidemiological Study of Child Marriages in a Rural Community of Gujarat

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ABSTRACT

Context: India has the maximum number of child marriages (CMs; < 18 years) because of the size of its population, and in 47% of all marriages the bride is a child. Children who are married at young age are exposed to multiple risks pertaining to their physical, mental, and social health. Aims: (i) To estimate the prevalence of CM in rural population. (ii) To study the determinants and health effects of CM. (iii) To assess the awareness among the married women regarding the health implications of CM. Settings and Design: Community-based cross-sectional study conducted in Ardi village of Anand district. Materials and Methods: All the married women of the village were surveyed to find out the prevalence of CM. For collection of other relevant information, only those women having a married life of less than 10 years were interviewed using semi-coded and pretested questionnaire. Data collected were analyzed using Statistical Package for Social Sciences (SPSS) 17.0 software. Statistical Analysis Used: Proportions, ratios, $\chi^2$ test, and Fisher’s exact test. Results: The prevalence of CM was found to be 71.5%. Caste and spouse’s education were revealed as important determinants for CM. CM was found to be significantly associated with mother’s age at birth of first child, delayed antenatal care (ANC), spontaneous abortion, preterm delivery, low birth weight (LBW), health problems in new born baby, faulty feeding practices, lack of knowledge regarding family welfare methods, and health implications of CM. Conclusion: Exceptionally high prevalence of CM in rural community and its serious health consequences warrant stricter enforcement of legislation, better educational opportunities for girls, and easy access to quality health services.

Keywords: Child marriage, determinants, health effects, knowledge

Introduction

Globally, child marriage (CM) is defined as marriage before the age of 18 years which applies to both boys and girls. However in India, as per ‘Prohibition of Child Marriage Act 2006’, a marriage is legally considered as CM when girl is less than 18 years old or boy is less than 21 years old.

However, in spite of legal provisions, CM continues to flourish in India because of deep rooted social and cultural customs, illiteracy, poverty, inadequate educational opportunities, inferior status of women in society, and poor law enforcement.

In terms of absolute numbers, India has the maximum number of CMs due to its population size, and in 47% of all marriages the bride is a child.

CM is violation of ‘Universal Declaration of Human Rights’ in general and ‘Rights of a child’ in particular. It exposes children to multiple risks pertaining to their physical, mental, and social health; leading to serious health consequences. Girls who marry and give birth at younger age are more at risk of death or severe injury and illness in childbirth. In 2007, United Nations Children’s Fund (UNICEF) reported that a girl under the age of 15 is five times more likely to die during pregnancy and childbirth than a woman in her 20s. Moreover; neonatal, infant, and child mortality rates are much higher...
for younger girls. Most importantly, early marriage bereaves young girls of their childhood by overburdening them with domestic responsibility, motherhood, and sexual relations rather than allowing them to play with friends, go to school, and dream about a career.

Considering the seriousness of the overarching impact of CM on the health status of young women and their children, and lack of data regarding the prevalence of CM in Gujarat, this study was conducted with the following objectives:
1. To estimate the prevalence of CM in Ardi village.
2. To study the determinants and health effects of CM.
3. To assess the awareness among the married women regarding the health implications of CM.

Materials and Methods
It is a community-based cross-sectional study conducted in ‘Ardi’ village from 10th August 2012 to 20th January 2013. It has a total population of about 3,400. All the married women of the village were surveyed to find out the prevalence of CM. For collection of other relevant information, only those women having a married life of less than 10 years were included in the study to avoid possibility of recall bias. The age at marriage was confirmed either orally or from marriage certificate if available.

Events related to pregnancy and child birth were confirmed from the available records such as Mamta card. When these records were not available, this information was sought from the respondent.

A house-to-house survey was conducted by the author herself. A semicoded and pretested questionnaire was used to collect the information. It consisted of three parts. First part was intended to collect sociodemographic information of the respondents. Second part contained questions related to pregnancy, child birth, and child feeding practices, and was offered to women who have given birth to at least one child. Third part consisted of open-ended questions to assess the level of knowledge regarding the health effects of CM. Written informed consent was taken from the respondents. Data collected was analyzed using Statistical Package for Social Sciences 17.0 (SPSS 17.0) software. Proportions and percentages were computed for categorical data. Statistical significance was tested using χ² test and Fisher’s exact test.

The study was approved by the Human Research Ethics Committee of H M Patel Center for Medical Care and Education.

Results
Total 755 couples were surveyed. Out of these, CM was found in 540 couples making its prevalence as 71.5% in Ardi village. There were 158 couples who had married life of less than 10 years for whom detailed information was collected. The prevalence of CM in this group was 60.1%.

The mean age at marriage of female spouses was 18.2 ± 2.4, while that of male spouses was 20.8 ± 3.2. All couples except one followed Hindu religion. Majority of the couples belonged to scheduled caste (SC)/schedules tribe (ST)/other backward classes (OBC), and lived in joint family [Table 1]. Only 8.2% couples were in category I and 1.3% in category V of socioeconomic class according to modified Prasad’s classification. Table 2 depicts the educational status of spouses and their parents. The difference in the education level of spouses with and without CM was found to be statistically significant (P < 0.05).

In our study, 98 women had at least one child. About half of them gave birth to their first child between the age of 16 and 20 years [Table 3]. Age at birth of first child was significantly different in mothers with and without CM (P < 0.001). All 98 women except one received antenatal care (ANC). About 80% of these women received their

| Table 1: Distribution of couples according to other sociodemographic characteristics |
| Variable            | With CM (n = 95); (n (%)) | Without CM (n = 63); (n (%)) | Total N = 158 | P - value |
|---------------------|---------------------------|-------------------------------|---------------|-----------|
| Caste               |                           |                               |               | 0.013     |
| SC, ST. and OBC     | 90 (63.8)                 | 51 (36.2)                     | 141 (89.2)    |           |
| Others              | 5 (29.4)                  | 12 (70.6)                     | 17 (10.8)     |           |
| Type of family      |                           |                               |               | 0.334     |
| Joint               | 77 (62.1)                 | 47 (37.9)                     | 124 (78.5)    |           |
| Nuclear             | 18 (52.9)                 | 16 (47.1)                     | 34 (21.5)     |           |
| Socioeconomic status|                           |                               |               | 0.469     |
| Class I             | 10 (76.9)                 | 3 (23.1)                      | 13 (8.2)      |           |
| Class II            | 43 (61.4)                 | 27 (38.6)                     | 70 (44.3)     |           |
| Class III           | 36 (59.0)                 | 25 (41.0)                     | 61 (38.6)     |           |
| Class IV            | 5 (41.7)                  | 7 (58.3)                      | 12 (7.6)      |           |
| Class V             | 1 (50.0)                  | 1 (50.0)                      | 2 (1.3)       |           |

CM: Child marriage, SC: Scheduled caste, ST: Scheduled tribe, OBC: Other backward classes.
first ANC in first trimester. Proportion of women without CM receiving first ANC in first trimester was significantly higher than that of women with CM ($P < 0.05$). As shown in Table 3, CM was found to be significantly associated with spontaneous abortion, preterm delivery ($P < 0.05$), delivery of low birth weight (LBW) babies ($P < 0.05$), and health problems in newborn at birth. As far as feeding is concerned, infants born to women with CM were found to be less exclusively breast fed, as well as fed with poor quality complementary food. We also assessed the knowledge of women about legal age of marriage, family welfare methods, and health consequences of early marriage [Table 4]. Only 29% respondents knew about at least one of the four family welfare methods, viz. condom, oral pills, Copper-T, and tubal ligation. Additionally, about 14-18% of the respondents had knowledge about the health effects of early marriage like preterm delivery, surgical delivery, abortion, LBW, and higher risk of illness in both mother and child. Women with CM were found to be less knowledgeable than those without CM in all these three aspects ($P < 0.05$).

**Discussion**

The present study detected an alarmingly high prevalence of 71.5% for CM in Ardi village. It is considerably higher than the state average of 35.4% and national average of 47%.

A study done by Raj et al., which was based on National Family Health Survey (NFHS)-3 data, found the prevalence of CM as 67.2% in rural areas of India.

Contrary to that, its prevalence was quite low in urban India which ranged from 2.2% in large towns to 10.2 in small towns.

To avoid any recall bias, we studied in detail only those couples who had married life of less than 10 years. The
Table 3: Distribution of female spouses according to significant background characteristics

| Variable                                           | With CM n (%) | Without CM n (%) | Total N (%) | P - value |
|----------------------------------------------------|---------------|------------------|-------------|-----------|
| Mother’s age at birth of first child (years; N=98) |               |                  |             | 0.000     |
| 16-20                                              | 42 (87.5)     | 6 (12.5)         | 48 (49.0)   |           |
| 21-24                                              | 18 (42.9)     | 24 (57.1)        | 42 (42.8)   |           |
| 25-30                                              | 1 (12.5)      | 7 (87.5)         | 8 (8.2)     |           |
| History of spontaneous abortion (N=158)            |               |                  |             | 0.039     |
| Yes                                                | 21 (77.8)     | 6 (22.2)         | 27 (17.1)   |           |
| No                                                 | 74 (56.5)     | 57 (43.5)        | 131 (82.9)  |           |
| Trimester in which 1st antenatal care was received (N=97) |       |                  |             | 0.031     |
| 1st                                                | 45 (57.7)     | 33 (42.3)        | 78 (80.4)   |           |
| 2nd                                                | 16 (84.2)     | 3 (15.8)         | 19 (19.6)   |           |
| Type of delivery (N=98)                            |               |                  |             | 0.034     |
| Full term                                          | 48 (57.8)     | 35 (42.2)        | 83 (84.7)   |           |
| Preterm                                            | 13 (86.7)     | 2 (13.3)         | 15 (15.3)   |           |
| Birth weight (N=98)                                |               |                  |             | 0.035     |
| <2.5 kg                                            | 22 (78.6)     | 6 (21.4)         | 28 (28.6)   |           |
| ≥2.5 kg                                            | 39 (55.7)     | 31 (44.3)        | 70 (71.4)   |           |
| Health problem in new born baby (N=98)             |               |                  |             | 0.048     |
| Yes                                                | 10 (90.9)     | 1 (9.1)          | 11 (11.2)   |           |
| No                                                 | 51 (56.5)     | 36 (43.5)        | 87 (88.8)   |           |
| Exclusive breast feeding (N=90)                    |               |                  |             | 0.039     |
| Yes                                                | 37 (57.8)     | 27 (42.2)        | 64 (71.1)   |           |
| No                                                 | 21 (80.8)     | 5 (19.2)         | 26 (28.9)   |           |
| Complementary feeding (N=90)                       |               |                  |             | 0.042     |
| Started in time                                    | 35 (57.4)     | 26 (42.6)        | 61 (67.8)   |           |
| Not started at all/started late                    | 23 (79.3)     | 6 (20.7)         | 29 (32.2)   |           |
| Quality of complementary feeding (N=79)            |               |                  |             | 0.004     |
| Good                                               | 11 (42.3)     | 15 (57.7)        | 26 (32.9)   |           |
| Poor                                               | 40 (75.5)     | 13 (24.5)        | 53 (67.1)   |           |

CM: Child marriage

Table 4: Distribution of female spouses according to their knowledge level

| Variable                                           | With CM n (%) | Without CM n (%) | Total N (%) | P - value |
|----------------------------------------------------|---------------|------------------|-------------|-----------|
| Knowledge of family welfare methods at the time of marriage |               |                  |             | 0.002     |
| Yes                                                | 19 (41.3)     | 27 (58.7)        | 46 (29.1)   |           |
| No                                                 | 76 (67.9)     | 36 (32.1)        | 112 (70.9)  |           |
| Current knowledge of family welfare methods        |               |                  |             | 0.009     |
| Yes                                                | 35 (76.1)     | 11 (23.9)        | 46 (29.1)   |           |
| No                                                 | 60 (53.6)     | 52 (46.4)        | 112 (70.9)  |           |
| Knowledge about legal age of marriage at the time of marriage |       |                  |             | 0.000     |
| Yes                                                | 16 (34.8)     | 30 (65.2)        | 46 (29.1)   |           |
| No                                                 | 79 (70.5)     | 33 (29.5)        | 112 (70.9)  |           |
| Correct current knowledge about legal age of marriage |             |                  |             | 0.001     |
| Yes                                                | 27 (44.3)     | 34 (55.7)        | 61 (38.6)   |           |
| No                                                 | 68 (70.1)     | 29 (29.9)        | 97 (61.4)   |           |
| Correct knowledge about the effect of early marriage on woman's health |   |                  |             | 0.001     |
| Yes                                                | 6 (27.3)      | 16 (72.7)        | 22 (13.9)   |           |
| No                                                 | 89 (65.4)     | 47 (34.6)        | 136 (86.1)  |           |
| Correct knowledge about the effect of early marriage on child's health |       |                  |             | 0.007     |
| Yes                                                | 11 (37.9)     | 18 (62.1)        | 29 (18.4)   |           |
| No                                                 | 84 (65.1)     | 45 (34.9)        | 129 (81.6)  |           |

CM: Child marriage
In our study, religion-based comparison cannot be made as all except one couple were Hindu. However, caste of the respondents was found to be significant predictor of CM in our study \((P < 0.001)\). An UNICEF report suggests that girls from scheduled castes and tribes (SCs and STs) marry at a younger age than the girls of other castes.\(^{(6)}\) Previous studies conducted in different states of India reported similar results, with a prevalence of CM in SC/ST/other backward classes (OBC) ranging from 68.7 to 81\% in these states.\(^{(8,9)}\) To minimize CM in these groups, strong support and commitment of all stakeholders, particularly local leaders, are required so as to promote good practices that help establish a higher age at marriage at the community level.

Various studies have shown that rates of spontaneous pregnancy termination are higher in young mothers who are married at early age.\(^{(7,14)}\) In our study, we found that women with CM were more likely to experience episodes of spontaneous abortion than the women without CM \((P < 0.05)\). Moreover, the risk of neonatal conditions like preterm birth, LBW, and asphyxia are higher among the babies born to adolescent mothers resulting in higher rates of still birth and neonatal mortality.\(^{(12,15)}\) In our study, women with CM were found to deliver preterm babies and LBW babies at significantly higher proportion than women without CM \((P < 0.05)\). Nour’s report states that the risk of delivering a LBW baby is 35-55\% higher in case of mothers under the age of 18 than mothers older than 19 years.\(^{(16)}\) Study by Raj et al., also found that mothers with CM are more likely to give birth to LBW infants than mothers married as adults.\(^{(8)}\)

In addition, 11 mothers reported some form of health problem in the new born babies like convulsions, cyanosis, jaundice, difficulty in feeding, and still birth. All these babies except one were born to mothers with CM \((P < 0.05)\). This finding suggests that ending the practice of CM could prevent considerable proportion of newborn morbidity.

Child rearing and feeding practices play a vital role in growth and development of a child. The immaturity and lack of education of a young mother undermines her capacity to understand and realize the importance of such practices for the nurturing and upbringing of her child. In our study, significantly less proportion of mothers with CM practiced exclusive breastfeeding \((P < 0.05)\). Similarly, complementary feeding was not started in timely manner in most of the children of respondents with CM \((P < 0.05)\). In our study, we assessed the appropriateness of quantity and quality of complementary food given to the children as per Integrated Management of Neonatal and Childhood Illnesses (IMNCI) guidelines.\(^{(17)}\) Though quantitative adequacy of complimentary food was similar in both the groups, our study did find a significant difference in quality of complimentary food given to the babies between the two groups \((P < 0.01)\).
It is anticipated that young girl of age below 18 years may not have enough information or knowledge about currently available family welfare methods. Several studies have revealed that knowledge about family welfare methods are comparatively lower in young women married at an early age than those married as adults. A study conducted in Nepal found higher unmet needs for family planning in women with CM. In our study, less proportion of women with CM had knowledge regarding any of the four major family welfare methods, compared to those without CM. This difference was statistically significant (P < 0.01).

Regarding knowledge about legal age of marriage at the time of interview as well as at the time of marriage, significantly higher proportion of women who had CM did not know the legal age of marriage compared to those without CM (P < 0.01). A study done among adolescents in Bangladesh revealed similar results where majority of them did not have correct knowledge about the legal age of marriage.

In our study, we also tried to assess the level of respondent’s knowledge about the health consequences of pregnancy at young age that may be seen in both mother as well as the child. Women married at appropriate age were found to be more aware of these aspects compared to those who were married at early age (P < 0.05). Prevention of CM is thus crucial for raising the awareness about health impact of early pregnancy.

**Conclusion**

CM, which has existed for centuries, is a complex issue, rooted deeply in gender inequality, tradition, and poverty. Despite national law, the practice is widely prevalent in rural areas, where prospects for girls can be limited. Exceptionally high prevalence of CM detected in our study clearly indicates that previous policies have been inadequate to sufficiently curb the social evil of CM. The outcome of the study necessitates stricter enforcement of legislation, better educational opportunities for girls, particularly, after marriage, and easy access to quality health services.

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**How to cite this article:** Pandya YP, Bhandari DJ. An epidemiological study of child marriages in a rural community of Gujarat. Indian J Community Med 2015;40:246-51.

**Source of Support:** Nil, **Conflict of Interest:** None declared.