



ORIGINAL RESEARCH ARTICLE

FACTORS INFLUENCING TEENAGE PREGNANCY AMONG DALIT ETHNIC GROUPS IN BHARATPUR METROPOLITAN CITY, CHITWAN

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ABSTRACT

**Background:** Teenage pregnancy refers to any pregnancy from a girl who is 10-19 years of age. This study aimed at accessing the factors influencing teenage pregnancy at first birth among the Dalit ethnic groups in Bharatpur Metropolitan City.

**Methods:** A community based cross-sectional study using face-to-face interview method was carried out in Bharatpur Metropolitan City, Chitwan, Nepal. A total of 217 married Dalit women who had given birth to at least one child and who were less than 25 years of age during the survey were considered as a sample. The data was collected from October 1st 2020 to 31st December 2020. We used Pearsons Chi-square test and binary logistic regression analysis to assess the factors influencing teenage pregnancy among Dalit ethnic groups in Bharatpur Metropolitan city, Chitwan.

**Results:** Among 217 married women of Dalit ethnic groups, there were 93(42.9%) married women who gave birth to their first child during teenage years and 124(57.1%) women gave first birth after crossing the teenage years. Results show that teenage pregnancy at first birth differ significantly with mother's education level [Just Literate (OR = 5.88; CI = 2.53-13.69)], Husband's education level [Just Literate (OR = 3.06; CI = 1.33-7.02)], Husband's occupation [Unemployment (OR = 7.87; CI = 2.17-28.46)] and Husband's age at marriage [ $\leq 20$  (OR = 6.01 CI = 3.27-11.06)].

**Conclusions:** Carrying out advocacy against teenage marriage & teenage pregnancy as well as implementing comprehensive sexuality education and safe motherhood education targeted to Dalit ethnic groups is the need of the hour.

INTRODUCTION

The World Health Organization defines Teenage Pregnancy as "any pregnancy from a girl who is 10-19 years of age", the age being defined as her age at the time the baby is born.<sup>1</sup> It is estimated that about 16 million girls 15–19 years old give birth each year, contributing nearly 11% of all births worldwide.<sup>2</sup> According to UNICEF, worldwide, every 5th child is born to a teenage mother.<sup>3</sup>

South Asian countries (India, Pakistan, Sri Lanka, Nepal, Maldives, Bhutan and Bangladesh) have high proportions of teenage pregnancies, since early marriage is common and there is a social expectation to have a child soon after marriage.<sup>4</sup> Within South Asia, the recorded teenage pregnancy rate is highest in Bangladesh (35%) followed by Nepal (21%) and India (21%).<sup>2</sup>

In Nepal, 17% of teenage women aged 15-19 are already mothers or pregnant with their first child. Teenage fertility is higher in rural areas (22%) than in urban areas (13%). By province, teenage pregnancy ranges from 10% in Province 3 to 27% in Province 7. The percentage of Teenagers who have

started childbearing increases rapidly with age 12, ranging from 1% in 15 years old to 39% in 19 years old.<sup>5</sup>

Cultural and social norms in certain communities like Dalit community within Nepal still prefer early marriages. This is particularly true for rural Dalit communities, where people still practice child marriages.<sup>6</sup> This study aimed at accessing the factors influencing teenage pregnancy at first birth among the Dalit ethnic groups in Bharatpur Metropolitan City.

METHODS

The community based descriptive cross-sectional study was conducted from October 1<sup>st</sup> 2020 to 31<sup>st</sup> December 2020 using face-to-face interview. The study was carried out in Bharatpur Metropolitan city, Chitwan, Nepal.

The sample size was calculated with a prevalence of 17% as per previous study (According to NDHS Report 2016, in Nepal, 17% of Teenagers aged 15-19 were already mothers or pregnant with their first child) With a 5% margin of error and using Cochran formula  $z^2pq/e^2$ ,<sup>15</sup> the sample size was

217. A self-designed semi-structured questionnaire was used to obtain the socio-demographic characteristics of the study population. Ethical clearance was obtained from CMC-IRC (Ref: CMC-IRC/076/077-118). The pre-testing was done in a study area with similarities. The reliability of this research was tested by conducting a pilot test by taking 10% of the sample and tested by using Cronbach alpha in SPSS 20. As the value of Cronbach alpha was greater than 0.8, we concluded that the research tool (questionnaire) is reliable.

Out of 29 wards of Bharatpur metropolitan city, two wards (5 and 6) were selected by using simple random sampling (Lottery) method. Married Dalit women who gave birth to at least one child and who were currently less than 25 years before the survey were considered as a study population. In the first stage, listing was done. The married Dalit women who gave birth to at least one child and who were currently less than 25 years before the one week of the data collection, i.e., 900 study population from the selected wards (5 and 6) were considered for listing. The final respondents were selected by using simple random sampling (by using the random number table). The total duration of data collection was three months. A local female community health volunteer was mobilized for the data collection to minimize non response rate.

Collected data were manually checked and entered in epi data 3.1 and exported to IBM SPSS 20.0 version software for further analysis. The Teenage pregnancy at first birth among married Dalit women was assessed by the descriptive analysis of the collected information. Kolmogorov-Smirnov (K-S) test was used to assess the normality of the data. The significant factors associated with teenage pregnancy were identified using Chi-square test and binary logistic regression model. Variables which were significantly associated with teenage pregnancy at first birth at 5% level of significance in chi-square test were further included multivariate logistic regression analysis. Adjusted odds ratio was calculated. Model adequacy test was computed like loglikelihood ratio test, Cox and snell Rsquare, Hosmer and Lemeshow goodness of fit.<sup>14</sup>

## RESULTS

Among participants, the median (IQR) of age of mothers, age of husband, mothers age at first child birth, mothers age at marriage, husband's age at marriage were 22(2), 24(2), 20(3), 19(3) (Table 1). More than one third i.e., 42.9% (93) Dalit women gave birth to their first child during teenage years and 57.1% (124) women gave first birth after crossing the teenage years (Table 2).

**Table 1: Information regarding quantitative variables among dalit women aged less than 25 years and having at least one child (n=217)**

Variables	Median (IQR)	Min	Max	p- value
Current age of mothers	22(2)	18	25	< 0.001*
Current age of husband	24(2)	18	29	< 0.001*
Mothers Age at first child born	20(3)	15	24	< 0.001*
Mothers Age at marriage	19(3)	15	23	< 0.001*
Husband age at marriage		14	27	< 0.001*
Number of children	1(1)	1	3	< 0.001*

\*Denotes significant result (reject null hypothesis) shows through Kolmogorov-Smirnov (K-S) test. IQR denotes inter quartile range

**Table 2: Teenage pregnancy at first birth among Dalit women aged less than 25 years and having at least one child (n=217)**

Variables	Frequency (%)
<b>Teenage pregnancy</b>	
Yes	93(42.9%)
No	124(57.1%)
<b>Type of marriage</b>	
Early marriages	139(64.1%)
Above early marriages	78(35.9%)

Table 3 showed that out of 217 married Dalit women, almost half belonged to "kami" group of Dalits. About a quarter (31.3%) were "Damai" group of Dalits. Over one fifth (22.1%) were "sarki/others" group of Dalits. The vast majority of the participants (65.4%) were Hindus. Approximately one fifth women were just literate, while 47.5% were educated upto primary level and 30% participants were educated upto secondary level and above. Just under half (47.9%) of the marriages were arranged marriages and just more than half (52.1%) of the marriages were love marriages. Just under half (47%) of the participants engaged in

agriculture/housewife while one third (93.2%) women engaged in labour and rest of the participants (19.8%) engaged in business/service.

Majority of the participant (64.1%) reported that their husbands were employed or engaged in work other than agriculture like business/services, foreign employment, etc. Just over half of the women (52.5%) reported that their husbands education level was primary education. Regarding husband's age at marriage, just above half (53.9%) were married at the age of twenty and below.

Results showed that teenage pregnancy at first birth were associated significantly with mother's education level [Just Literate (OR = 5.88; CI = 2.53-13.69)], husband's education level [Just Literate (OR = 3.06; CI = 1.33-7.02)], husband's occupation [Unemployment (OR = 7.87; CI = 2.17-28.46)], husband's age at marriage [ $\leq 20$  (OR = 6.01 CI = 3.27-11.06)] and types of

marriage [Love Marriage (OR = 1.77; CI = 1.03-3.06)]. There was no statistically significant association among ethnicity (caste), religion, mothers' occupation, monthly income and persons living with in the family, regarding teenage pregnancy at first birth of Dalit women.

**Table 3: Bivariate analysis of teenage pregnancy at first birth among Dalit women aged less than 25 years and having at least one child (n=217)**

Variables	N (%)	Teen pregnancy		COR (95% CI)	p-value
		No (%)	Yes (%)		
<b>Cast (within Dalit)</b>					
Damai	68(31.3%)	38(55.9%)	30(44.1%)	1.2(0.56-2.55)	0.872
Kami	101(46.5%)	57(56.4%)	44(43.6%)	1.17(0.58-2.37)	
Sarki/others	48(22.1%)	29(60.4%)	19(39.6%)	Ref	
<b>Religion</b>					
Hindu	142(65.4%)	81(57%)	61(43%)	1.01(0.57-1.78)	0.967
Non-Hindu	75(34.6%)	43(57.3%)	32(42.7%)	Ref	
<b>Mothers' education</b>					
Just literates	49(22.6%)	21(42.9%)	28(57.1%)	5.88(2.53-13.69)	<0.001*
Primary	103(47.5%)	50(48.5%)	53(51.5%)	4.68(2.24-9.77)	
Higher and above	65(30%)	53(81.5%)	12(18.5%)	Ref	
<b>Mothers Occupation</b>					
Agriculture/housewife	102(47%)	60(58.8%)	42(41.2%)	Ref	0.142
Labor	72(33.2%)	45(62.5%)	27(37.5%)	0.85(0.46-1.59)	
Business/services	43(19.8%)	19(44.2%)	24(55.8%)	1.8(0.87-3.70)	
<b>Husband education</b>					
Just literate	41(18.9%)	19(46.3%)	22(57.7%)	3.06(1.33-7.02)	0.011*
Primary	114(52.5%)	60(52.6%)	54(47.4%)	2.38(1.22-4.64)	
Higher and above	62(28.6%)	45(72.6%)	17(27.4%)	Ref	
<b>Husband occupation</b>					
Unemployment	18(8.3%)	3(16.7%)	15(83.3%)	7.87(2.17-28.46)	0.001*
Agriculture	60(27.6%)	36(60%)	24(40%)	1.04(0.56-1.94)	
Other than agriculture	139(64.1%)	85(61.2%)	54(38.8%)	Ref	
<b>Family Monthly income</b>					
Less than 10,000	66(30.4%)	37(56.1%)	29(43.9%)	Ref	0.890
10,000-20,000	88(40.6%)	52(59.1%)	36(40.9%)	0.83(0.46-1.68)	
Above 20,000	63(29%)	35(55.6%)	28(44.4%)	1.02(0.50-2.04)	
<b>Husband age at marriage</b>					
$\leq 20$	117(53.9%)	45(38.5%)	72(61.5%)	6.01(3.27-11.06)	<0.001*
Above 20	100(46.1%)	79(79%)	21(21%)	Ref	
<b>Living with</b>					
With (mother and father in-law)	98(45.2%)	56(57.1%)	42(42.9%)	1.13(0.60-2.13)	0.725
Others	51(23.5%)	27(52.9%)	24(47.1%)	1.35(0.64-2.81)	
<b>Types of marriage</b>					
Love	113(52.1%)	57(50.4%)	56(49.6%)	1.77(1.03-3.06)	0.038*
Arrange	104(47.9%)	67(64.4%)	37(35.6%)	Ref	

COR = Crude odds ratio or Unadjusted, Ref = reference category,

\* Denotes significant association with Teenage pregnancy (Applying pearson chi-square test at 5% level of significance)

Table 4 showed the multivariate analysis results with adjusted odds ratio. We fitted all the factors which are significantly associated in bivariate analysis with teenage pregnancy at first birth into one model. In this model the interest of variables of the study like mother's education, husband's education, husband's occupation, husband's age at marriage, types of

marriage were analyzed together.

From the result of multiple binary logistic regression, it is seen that in the present context, respondent's education, husband's education, husband's occupation and husband's age at marriage are statistically significant at 5% level of significance. The risk of teenage pregnancy at first birth is 5.49 times (95% CI for AOR =

2.07- 14.59) more among those married women who were just literate as compared to women who had secondary and above education. In women with primary level of education, the risk of teenage pregnancy is 3.82 times (95% CI for AOR = 1.64- 8.86) more in comparison to those women who received secondary education and above.

The educational level of respondent's husband was also found to be significantly associated with teenage pregnancy at first birth among married women at 1% level of significance. The reference category was taken as those women whose husband's education level was higher. The odds of teenage pregnancy at first birth for Just literate, primary education with reference to secondary education and above is 2.38 and 1.24 respectively. This shows that the chance of having teenage pregnancy among married Dalit women whose husbands were just literate was 2.38 times more (95% CI for AOR= 0.91-6.21) as compared to those women whose husband's education was secondary level

of education and above. Similarly, the risk of teenage pregnancy is 1.24 times more (95% CI for AOR= 0.54-2.84) among those married women whose husband's education level was primary education. Similarly, the odds of teenage pregnancy at first birth was 5.72 times (95% CI for AOR = 1.32-24.80) more among those Dalit women whose husbands were unemployed during pregnancy in comparison to those women whose husbands' occupation was other than agriculture.

The respondent's husband's age at marriage was found to be statistically significant at 5% level of significance with teenage pregnancy at first birth among married Dalit women in multiple binary logistic regression analysis. It was seen that the chance of teenage pregnancy at first birth was 5.18 times (95% CI for AOR = 2.65-10.13) more among those Dalit women whose husband's age at marriage was below or equal to 20 as compared to those married women whose husband's age at marriage was above 20 years.

**Table 4: Multivariate analysis of teenage pregnancy at first birth among Dalit women aged less than 25 years and having at least one child (n=217)**

Independent variables	Wald	UOR (95% CI)	AOR (95% CI)	p-value
<b>Mothers' education</b>				
Just litterete	11.69	5.88(2.53-13.69)	5.495(2.07-14.59)	0.001
Primary	9.75	4.68(2.24-9.77)	3.82(1.64-8.86)	0.002
Secondary and above		Ref	Ref	
<b>Husband education</b>				
Just litterete	3.17	3.06(1.33-7.02)	2.38(0.91-6.21)	0.07
Primary	0.266	2.38(1.22-4.64)	1.24(0.54-2.84)	0.60
Secondary and above		Ref	Ref	
<b>Husband Occupation</b>				
Unemployment	5.43	7.87(2.17-28.46)	5.72(1.32-24.80)	0.02
Agriculture	0.54	1.04(0.56-1.94)	1.30(0.60-2.78)	0.49
Other than Agriculture		Ref	Ref	
<b>Husband Age at marriage</b>				
≤ 20	23.17	6.01(3.27-11.06)	5.18(2.65-10.13)	< 0.001
Above 20 <sup>®</sup>		Ref	Ref	
<b>Types of Marriage</b>				
Love	0.90	1.77(1.03-3.06)	1.37(0.71-2.64)	0.341
Arrange <sup>®</sup>		Ref	Ref	

UOR = Unadjusted or Crude odds ratio, AOR = Adjusted odds ratio, C.I = Confidence interval

Ref = Reference category, Cox and Snell = 0.27, Negarkerke  $R^2 = 0.362$ , Hosmer and Lemeshow p value = 0.897

## DISCUSSION

Teenage pregnancy is a public health concern worldwide. There are disparities in the occurrence of teenage pregnancy in different social groups and settings. However, few studies have focused on the contribution of a woman's ethnicity in early pregnancy in Nepal. According to NDHS 2016 and other national reports, the prevalence of teenage pregnancy at first birth is high in Dalit ethnicity as compare to other ethnic groups.<sup>7</sup>

Teenage pregnancy in terai, especially among Dalit community in Nepal is believed to be high because of the culture and religious factors. Nepal is one of the top 10 countries, which have the highest rate of child marriage and teenage pregnancy in the world and third highest rate of child marriage and teenage

pregnancy in South Asia, after Bangladesh and India.<sup>8</sup>

In this study, 37.3% of the respondents said that lower level of education (below higher level) was the contributing factors of teenage pregnancy, which was similar to the finding of the study by Chalise and Bajracharya which found that some of the respondents were already dropouts from school, while others were deprived of the chance for secondary education.<sup>9</sup>

About 41.2% of the respondents in this study, whose main occupation was categorized as homemaker/Agriculture, felt their occupation was not the main contributing factor for teenage pregnancy. This result was different from the study conducted by Muchuruza which showed that the risk was fifteen times higher in respondents with no employment.<sup>13</sup>

This present study showed that the prevalence of teenage pregnancy at first birth among Dalit women aged less than 25 years and having at least one child is 42.9 % (93). In this study, teenage pregnancy at first birth was significantly associated with mother's education level, husband's education, husband's occupation, husband's age at marriage and types of marriage. however, few studies have focused on the contribution of a woman's caste in early pregnancy in Nepal. In one study conducted in Rupandehi Nepal, there was 72.5% of women from Dalit caste groups who reported teenage pregnancy.<sup>7</sup>

Women with primary education were more likely to become pregnant as an adolescent than either those with secondary or higher education, or women with no education at all. The finding for women with secondary level education conforms to a large body of evidence that retaining girls in education develops self-esteem, empowerment and motivation to delay pregnancy.<sup>10-12</sup>

In this study, cast within Dalit groups, religion, mothers' education, mothers' occupation, family monthly income

and family members in the household were not significantly associated with teenage pregnancy. The study was carried out in a limited area so it may not represent the entire Dalit women.

## CONCLUSION

This study showed that teenage pregnancies are still a major concern in Nepalese Dalit community as many respondents had teenage pregnancy at first birth. This is unacceptably high. The main factors influencing teenage pregnancy at first birth were limited education of respondents and their husbands, husband's occupation, early age at marriage of the husband and types of marriage. Carrying out advocacy against teenage marriage & teenage pregnancy as well as implementing comprehensive sexuality education and safe motherhood education targeted to Dalit ethnic groups is the need of the hour.

**CONFLICT OF INTEREST:** None

**FINANCIAL DISCLOSURE:** None

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