

Teenage pregnancies, practices, and utilization of RCH services by the tribal and nontribal population of West and South Tripura districts: A mixed method study

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ABSTRACT

Background: As per NFHS III, 4.5% of the teen aged women of Tripura were pregnant, 18.5% have begun childbearing, and 14% have given live births. **Objectives:** To estimate the prevalence of teenage pregnancies among tribal and nontribal population of West and South districts of Tripura, to study the social practice of care during these pregnancies, and to assess the utilization of RCH services by them. **Methods:** A community-based mixed method study was conducted from 5th September 2014 to 4th September 2015 among 2108 tribal and nontribal women aged 15 to ≤18 years residing in the undivided West and South districts of Tripura chosen by multistage sampling. **Result:** Among the study women, 93.5% were married, 6.3% were unmarried, and 0.2% was either divorced or widowed. Out of total, 21.35% were pregnant and 57.92% had already delivered. ASHA services were received by 59.73% and 72.13% in West and South districts and by 68.09% and 63.69% of the tribal and nontribal, respectively. JSY registration was 53.99% and 83.43% in West and South districts and 71.56% and 66.91% among tribal and nontribal, respectively. Antenatal check-up was received by 96.26% and 90.79% in West and South districts and 89.39% and 97.66% among tribal and nontribal ever pregnant women, respectively. Home deliveries were higher among tribal and they had inadequate postnatal check-up. Practice of isolated confinement following childbirth was fewer and these rooms were unclean and ill-ventilated though normal clothing was used. Qualitative component revealed that underutilization of RCH services was mainly due to poor quality of services, ignorance, and economic constraints to reach health facility. **Conclusion:** Teenage pregnancy is prevalent in Tripura and more among tribal. Ignorance of the women and poor quality of RCH services at primary health care level are responsible for its underutilization.

Keywords: Pregnancy, RCH, teenage, tribal, Tripura, utilization

Introduction

The marriage of girls at young ages in India leads to teenage pregnancy and motherhood. Young women, who become pregnant and have births, experience a number of health, social, economic, and emotional problems. In addition to the relatively high level of pregnancy complications among young mothers

because of physiological immaturity, inexperience associated with child care practices also influences maternal and infant health. Moreover, an early start to childbearing greatly reduces the educational and employment opportunities of women and is associated with higher levels of fertility. National teenage fertility rate is 0.057 in urban and 0.105 in rural areas. Tripura teenage fertility rate is 0.081 in urban and 0.114 in rural area. Total fertility rate in urban is 2.06, in rural is 2.98, and among tribal is 3.12. Birth interval in ST population in India is 9.5 months. Birth interval in Tripura is 7.2 months. Among ST, age of mother at first childbirth is 19.9 years. Indian teenage pregnancy rate in

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rural area is 14.5% and among ST, it is 16%. In India among teenagers, 85.2% of births are wanted, 11.9% were supposed to be wanted later, and 2.5% were not wanted. In rural areas, total wanted fertility rate is 2.1% and among ST, it is 2.1%. In Tripura, it is 1.6%.^[1]

As per NFHS-III, 12% of women aged 15–19 become mothers and 4% of women aged 15–19 are currently pregnant with their first child. The percentage of women who have begun childbearing increases sharply with age, from 3% at age 15 to 36% at age 19. The proportion of women aged 15–19, who have begun childbearing, is more than twice as high in rural areas (19%) as in urban areas (9%). The level of teenage pregnancy and motherhood is 9 times higher among women with no education than among women with 12 or more years of education. More than one-quarter of women aged 15–19 with no education have become mothers and almost one-third of them have begun childbearing.^[1]

In Tripura, 14% teenagers have given live births, 4.5% are pregnant, and in total 18.5% have begun childbearing. Among the tribal, 20.4% have given live births, 3.9% are pregnant, and in total 24.3% have begun childbearing.^[1] It may be possible to bring down the maternal morbidity and mortality to a great extent by effective management of this chunk of teenage pregnancies both among tribal and nontribal population. National Health Mission and its Reproductive and Child Health program is offering numerous packages of services for expectant mothers and newer services are also constantly incorporated in order to reduce maternal morbidity and mortality. But the health of the beneficiaries is to a great extent dependent upon the utilization of these existing services. In this context, the present study was designed with the objectives to estimate the burden and social practice of care for teenage pregnancies among tribal and nontribal population of West and South Tripura districts and to identify the shortcomings in the utilization of RCH services in these pregnancies and also to formulate recommendations to minimize this problem at primary and secondary health care facility.

Methodology

This community based mixed method study consisting of a quantitative component of cross-sectional design and a qualitative component in the form of focus group discussions was conducted from 5th September 2014 to 4th September 2015 among 2108 women aged 15 to 18 years belonging to both tribal and nontribal communities residing in the West and South districts of Tripura state. Minimum sample size requirement for quantitative component of this study was determined using the formula $N = [(Z_{\alpha} + Z_{\beta})^2 \times 2 \times \bar{p}(1 - \bar{p})] \div d^2$, where N = Sample size; Z_{α} = amount of α error that was tolerated in this study, which was 0.05 at 95% confidence or two-tailed test having standard value of 1.960; Z_{β} = amount of β error tolerated in this study, which was 10%, i.e., 90% power of the study and its standard value is 1.282; \hat{p} = average prevalence

of teenage pregnancy (among both tribal and nontribal) in Tripura, which was 18.5% as per NFHS- III^[1]; d = amount of difference to be detected by the study— as per NFHS-III, it was $(24.3 - 18.5) = 5.8$. Sample size was further raised by 10% to compensate for incomplete responses. Finally, the sample size was 985 (rounded) for each district. Ultimately it was possible to enroll 2108 teenaged women in this study.

Multistage sampling technique was followed to choose the sample. At the final stage, ward wise family registers maintained by both Village and Nagar Panchayats (Municipalities) of both ADC (Tribal) and non-ADC (Nontribal) areas were used to construct sampling frames.

A predesigned, pretested, and structured interview schedule was used for collecting quantitative data. Quantitative data were collected by paying door-to-door visits to the preselected primary sampling units (Households) by the recruited and trained field workers. There the target population were interviewed after obtaining informed written consent and maintaining confidentiality. Data were recorded in the pretested structured interview schedule on spot. Unwilling women were excluded from the study and the team moved to the next house. For the qualitative component, 10 number FGDs were conducted among the study population of both tribal and nontribal area, one in each subdivision. These were audio-recorded and later on analyzed.

Quantitative data were entered in computer and analyzed using “Statistical Package for the Social Sciences” (SPSS) software for Windows (SPSS Inc, Chicago, Illinois, USA) version 15.0. Chi-square test with Yates’ correction was applied to assess the significance of study findings and $P < 0.05$ was considered statistically significant.

Factors contributing to the shortcomings in the utilization of RCH services in teenage pregnancies at primary and secondary health care facility level were explored qualitatively in a triangulated manner in the form of 10 focus group discussions, conducted one in each subdivision among the study population from both tribal and nontribal areas. Free listing and pile sorting exercises were performed using the platform of FGDs to identify the various factors and their role in the utilization of RCH services by teenaged pregnant women.

Institutional Ethics Committee of Agartala Government Medical College has approved the study.

Result

The mean (SD) age of the study subjects was 18.05 (\pm 1.13) years and age at marriage was 16.20 (\pm 1.302) years. Among the study participants, 84.34% were Hindu, 9.78% were Christian, 3.08% were Muslim, and 2.8% were Buddhist by religion. Out of all, 57.4% belonged to joint families, 93.5% were married, 6.3% were unmarried, and 0.2% were either divorced or widowed. Among the study subjects, 21.35% were currently pregnant and

57.92% already got delivered. Regarding occupation, 90.2% were engaged in household works, 6.4% were students, 2.4% were self-employed, and 1.0% were doing some services and their per capita monthly income was 2214.62 (\pm 1347.36) INR.

Only 13.7% of the study subjects from West Tripura, 2.5% from South Tripura, 5.4% of the tribal, and 10.8% of the nontribal have said that they have heard the name of “RCH program.” Significantly higher proportions of the illiterate, rural, tribal, self-employed teenaged women from South Tripura district were not familiar with the name “RCH program.” Out of total, 95.7% of the study subjects from West Tripura, 96.9% from South Tripura, 96% tribal, and 96.8% nontribal women have heard about the health worker ASHA [Table 1]. It was found that significantly higher proportions of the Hindu, married women from nuclear families, and those engaged in household works have heard about these ASHAs. Significantly higher proportions of the rural (73.34%), secondary educated (81.19%), and married women (76.04%) from South Tripura district (80.85%) have heard about JSY scheme of government. Majority of the ever pregnant women from both the districts (53.99% from West and 83.43% from South Tripura) and communities (71.56% tribal and 66.91% nontribal) got themselves registered under JSY and a small proportion of the ever pregnant women were not aware of their registration status [Table 2].

Majority of the ever pregnant women from both the districts and communities used to perform their day-to-day activities regularly during pregnancy. Higher proportion of the ever pregnant women from both the districts and communities preferred government hospitals for childbirth than either home or private clinics [Table 3]. Majority of the ever pregnant women from both the districts and communities did not consume any unusual food during pregnancy. Frequency of unusual food consumption during pregnancy was similar in both the districts but significantly higher proportions of the tribal women used to consume such food items frequently. Ever pregnant women from west Tripura preferred sour fruits during pregnancy, whereas, consumption of both sour fruit and raw rice was reported from South Tripura district. Tribal women equally preferred all these items and sour fruits were more preferable to the nontribal [Table 4].

About 16.08% of the ever pregnant women from West Tripura had abortions, whereas, it was only 5.64% in South Tripura district and this difference was significant ($P < 0.001$) but no significant difference was observed between the two communities ($P > 0.05$). Majority of the abortions from both the districts and communities were spontaneous in nature. It was relatively higher in South Tripura district and among the nontribal. Majority of the induced abortions from both the districts and communities were for postponing the childbirth.

Table 1: Receiving antenatal check-up, postnatal check-up, and services from ASHA by residential district of the study women

Services	Subgroups	Residence		Chi-square, P
		West Tripura n (%)	South Tripura n (%)	
Antenatal check-up (n=1671)	Received	772 (49.46)	789 (50.54)	$\chi^2=19.380$, P=0.0000
	Not received	30 (27.28)	80 (72.72)	
Postnatal check-up (n=1221)	Received	396 (48.53)	420 (51.47)	$\chi^2=3.150$, P=0.0759
	Not received	174 (42.96)	231 (57.04)	
Services from ASHA (n=2108)	Received	629 (45.25)	761 (54.75)	$\chi^2=35.521$, P=0.0000
	Not received	424 (59.05)	294 (40.95)	

Table 1 shows that significantly higher proportions of the teenaged women residing in South district of Tripura received antenatal check-up and services from ASHA than those living in the West district of Tripura ($P < 0.05$). Similarly, higher proportion of teenaged women of South district had postnatal check-up than those living in the west district of Tripura, but it was not significant ($P > 0.05$).

Table 2: Adequacy of ANC, PNC, TT immunization, lab tests, food intake, and IFA received by residential district of the study women

Variables	Subgroups	Residence		Chi-square, P
		West Tripura n (%)	South Tripura n (%)	
Antenatal check-up, (n=1561)	Adequate	667 (52.77)	597 (47.23)	$\chi^2=28.487$, P=0.000
	Inadequate	105 (35.35)	192 (64.65)	
Postnatal check-up, (n=816)	Adequate	102 (41.80)	142 (58.20)	$\chi^2=5.926$, P=0.0149
	Inadequate	294 (51.40)	278 (48.60)	
TT Immunization, (n=1561)	Complete	661 (48.67)	697 (51.33)	$\chi^2=2.313$, P=0.1283
	Incomplete	111 (54.68)	92 (45.32)	
Lab tests, (n=1561)	Complete	432 (45.71)	513 (54.29)	$\chi^2=13.032$, P=0.0003
	Incomplete	340 (55.19)	276 (44.81)	
IFA intake, (n=1561)	Adequate	461 (48.37)	492 (51.63)	$\chi^2=1.037$, P=0.3084
	Inadequate	311 (51.15)	297 (48.85)	
Food intake, (n=1671)	Adequate	713 (47.22)	797 (52.78)	$\chi^2=3.471$, P=0.0624
	Inadequate	89 (55.28)	72 (44.72)	

Table 2 shows that significantly higher proportions of the teenaged women residing in West district received adequate number of antenatal check-ups than those living in the South district of Tripura, whereas, a significantly higher proportion of teenaged women of South district had adequate number of postnatal check-up and laboratory investigations during pregnancy than those living in the west district of Tripura ($P > 0.05$).

Table 3: Receiving antenatal check-up, postnatal check-up, and services from ASHA by community of the study women

Services	Subgroups	Community		Chi-square, P
		Tribal, n (%)	Nontribal, n (%)	
Antenatal check-up (n=1671)	Received	767 (49.14)	794 (50.86)	$\chi^2=45.081$, P=0.0000
	Not received	91 (82.73)	19 (17.27)	
Postnatal check-up (n=1221)	Received	249 (30.51)	567 (69.49)	$\chi^2=60.044$, P=0.0000
	Not received	217 (53.58)	188 (46.42)	
Services from ASHA (n=2108)	Received	732 (52.66)	658 (47.34)	$\chi^2=4.337$, P=0.0373
	Not received	343 (47.77)	375 (52.23)	

Table 3 shows that the proportion of teenaged women receiving antenatal and postnatal check-ups were higher among the nontribal than the tribal communities, whereas, higher proportion of tribal communities received services from ASHA than the nontribal communities and these were found to be statistically significant ($P<0.05$)

Table 4: Adequacy of ANC, PNC, TT immunization, lab tests, food intake, and IFA received by community of the study women

Variables	Subgroups	Community		Chi-square, P
		Tribal n (%)	Nontribal n (%)	
Antenatal check-up, (n=1561)	Adequate	559 (44.22)	705 (55.78)	$\chi^2=28.487$ P=0.000
	Inadequate	208 (70.03)	89 (29.97)	
Postnatal check-up, (n=816)	Adequate	50 (25.77)	194 (74.23)	$\chi^2=5.926$ P=0.0149
	Inadequate	199 (34.79)	373 (65.21)	
TT Immunization, (n=1561)	Complete	692 (50.96)	666 (49.04)	$\chi^2=2.313$ P=0.1283
	Incomplete	75 (36.95)	128 (63.05)	
Lab tests, (n=1561)	Complete	394 (41.69)	551 (58.31)	$\chi^2=13.032$ P=0.0003
	Incomplete	373 (60.55)	243 (39.45)	
IFA intake, (n=1561)	Adequate	487 (51.10)	466 (48.90)	$\chi^2=1.037$ P=0.3084
	Inadequate	280 (46.05)	328 (53.95)	
Food intake, (n=1671)	Adequate	778 (51.52)	732 (48.48)	$\chi^2=3.471$ P=0.0624
	Inadequate	80 (49.69)	81 (50.31)	

Table 4 shows that significantly higher proportions of the teenaged women belonging to nontribal communities received adequate number of antenatal check-ups, postnatal check-ups, and laboratory tests than the teenaged women belonging to tribal communities ($P>0.05$)

Higher proportion (57.72%) of the ever delivered women from West Tripura district, and those belonging to nontribal community (53.38%) were confined in isolated rooms following childbirth and they used normal day-to-day dress during this period. Most of these confinement rooms in both the districts and communities were reported to be unclean and ill-ventilated in nature.

Qualitative data collected in this study were analyzed by nonmetric multidimensional scaling and hierarchical cluster analysis. It was found that the study participants mentioned 11 factors which were pile sorted into four broad categories of factors responsible for shortcomings in the utilization of RCH services. The first broad category of factors was shortcomings in the package of services. Second category was fear of hospital. Third category was economic constraints and the fourth category was identified as ignorance of the women [Figure 1].

Discussion

The present study has found that 93.5% of the study women were married. National Family Health Survey III^[1] documented it to be 52% in Uttar Pradesh, 25% in Tamil Nadu, and 17% in Kerala. This regional diversity in marriage timing is accompanied by well-recognized regional diversity in

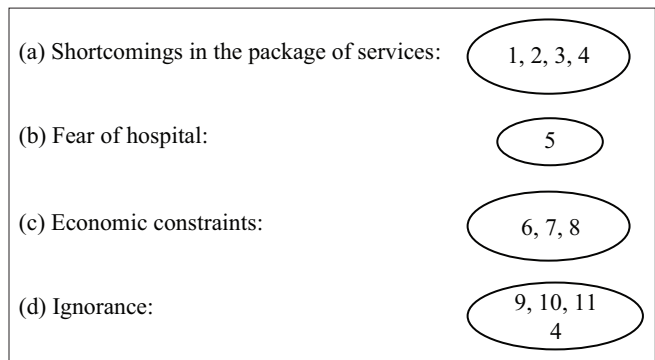


Figure 1: Pile sort analysis of factors responsible for shortcomings in the utilization of RCH services by the teenaged pregnant women

different dimensions of gender.^[2] In this study, mean (SD) age at marriage of the study subjects was found to be 16.20 (± 1.302) years, whereas Singh *et al.*^[3] have found the mean age at marriage to be 15 years among women who gave birth in the age group 15–19 years and census 2011^[4] reported it to be 21.2 years, ranging from 20.3 years in West Bengal to 22.6 years in Kerala. These differences may be attributable to the inclusion of wider geographic area and diverse cultural practice in these two studies. Though the majority of the study women were not familiar with the term “RCH program,” they were utilizing

its services. This may be due to the fact that the term, “RCH program” is seldom highlighted and only its various services are highlighted. The present study has found that in West and South districts of Tripura, 21.35% of the teenaged women were currently pregnant and 57.92% have already delivered. Debi *et al.*^[5] in rural areas of Hooghly district, West Bengal, have found the teenage pregnancy rate as 17.8%. Singh *et al.*^[3] after analyzing the data from NFHS -III, have found that 62% of adolescent women have already given birth. In USA, the birth rate among teenagers ranged from 15.7 in New Hampshire to 55.0 in Mississippi in 2010,^[6] which was lower than in the previous years. The higher pregnancy rate in some regions of USA is similar to our finding. The present study detected that 69.71% of study subjects from West Tripura, 80.85% from South Tripura, 73.49% tribal, and 77.15% nontribal have heard about the JSY scheme, whereas Radhika *et al.*^[7] have found that 40% of the mothers were aware of JSY. This study has found that among the eligible women, 53.99% from West Tripura and 83.43% from South Tripura district, and 71.56% tribal and 66.91% nontribal got registered under JSY, whereas Ranjan *et al.*^[8] have found overall JSY registration to be 57.2%. The higher frequency of JSY registration found in the present study may be attributable to the higher literacy rate of Tripura and better fieldwork of the ASHAs. This study revealed that 86.4% of study subjects from West Tripura, 75.67% from South Tripura, 72.88% tribal, and 88.79% nontribal had adequate number of antenatal check-ups. Similarly, Singh and Yadav^[9] and De Allegri *et al.*^[10] found it to be 89% and 76%, respectively. But Radhika *et al.*^[7] and Singh and Yadav^[9] have found it to be 40% and 62%, respectively. Sharma *et al.*^[11] found it to be 43.4% and Kumar *et al.*^[12] found it to be 51.6%. These differences may be attributable to a different study setting and the literacy status of the study women. It was found that only 13.7% of study subjects from West Tripura, 2.5% from South Tripura, 5.4% tribal, and 10.8% nontribal were familiar with the name RCH program, whereas Rashmi and Udaya Kiran^[13] in the rural field practice areas of K. S. Hegde Medical Academy, Deralakatte, Karnataka, have found it to be 53.2%. It may be due to the fact that local people were less familiar with the English terminology though they were availing its services. We have found the adequate postnatal check-up rate ranging from 25.76% to 33.81% among the ever delivered women from West and South Tripura districts, respectively, and 20.08% to 34.22% among the tribal and nontribal ever delivered women, respectively; similarly Singh *et al.*^[3] have also found it to be overall 35%. The frequency of having essential laboratory testing during pregnancy was found to be 55.96% and 65.02% among ever pregnant women from West and South Tripura district, respectively, and 51.37% and 69.4% among the tribal and nontribal ever pregnant women, respectively, in our study. Similarly Radhika *et al.*^[7] have also found it to be 50%. The present study has detected TT full immunization rate to be 85.62% in West Tripura and 88.34% in South Tripura district and 90.22% among tribal and 83.88% among nontribal, whereas Radhika *et al.*^[7] have found it to be overall 67.5% only. We have found that among the women who have ever received ANC, 59.72% of them from West and

62.36% from South Tripura district, 63.49% from tribal, and 58.69% from nontribal communities have received at least 100 IFA tablets; similarly Radhika *et al.*^[7] have also found it to be overall 67.5% and Debi *et al.*^[5] have found it to be >80%. The finding that the majority of the ever pregnant women from both the districts and communities in this study have either delivered or planned to deliver in a government health center signifies good utilization of the RCH services. The frequency of unusual food consumption during pregnancy was very less and for those who consumed, it was mostly in the nature of sour fruits. The rate of abortion was nearer to 10% or lesser, which is within the acceptable range and moreover spontaneous abortions were more in number. Poor ventilation and lack of cleanliness prevalent in the majority of the confining rooms signify poor health education and weakness in awareness generation among this community. Shortcoming in the package of services was identified as the number one cause for the underutilization of RCH services by the study women.

Conclusion

Teenage marriage and pregnancy are common among both tribal and nontribal residing in West and South districts of Tripura. Underutilization of RCH services by them is mainly due to lack of high-quality services, ignorance, and economic constraints to reach a health facility. Hence, apart from awareness generation regarding ill effects of teenage pregnancy and the availability of RCH services at primary health care level, quality improvement of these services is also necessary to promote utilization. The findings of this study will help the primary care physicians to recognize the areas of shortcomings in delivering RCH services and guide them to take appropriate corrective measures for the improvement of its utilization.

Recommendation

Based upon the findings of the present study, an intervention trial can be designed to examine whether awareness generation and provision of high-quality RCH services at the primary care level improve its utilization.

Declaration of patient consent

The authors certify that they have obtained all appropriate participant consent forms. In the form, the participants have given their consent for their images and other clinical information to be reported in the journal. The participants understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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