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RESEARCH ARTICLE

A STUDY OF SOCIO-DEMOGRAPHIC, CULTURAL, ECONOMIC AND PSYCHOLOGICAL CHARACTERISTICS ASSOCIATED WITH ADOLESCENT PREGNANCY FROM TEA GARDEN COMMUNITY OF SIVASAGAR, ASSAM: CROSS-SECTIONAL SURVEY

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Abstract

Introduction: The World Health Organization (W.H.O), defines adolescence as the period of life between 10 to 19 years (1). Early marriage a hidden, yet known practice in several regions of the world has been a major public health threat where the girl experiences number of health, social, economic, and emotional problems in the form of adolescent pregnancy, synonymously termed teenage pregnancy.

Methodology: A descriptive community-based cross-sectional study was conducted in a tea garden community of Sivasagar district from February 2020 to May 2020. Sample size was estimated at 282. Data was collected using pre-designed and pre-tested questionnaire. Variables like socio-demographic characteristics, income of the participant and family members, family size and school drop-out reason were analysed using descriptive statistics.

Results and Discussion: In the present study, out of total of 330 eligible participants selected randomly from 12 Tea estates of Sivasagar district, 15.45 % of them were under the age group of 11-16 years and 84.55% belonged from 17-19 years. 82 % were from Other Backward Class, while rest only 18 %. The mental health status shows that out of 330 participants, 41, 91 and 8 had "extremely severe" signs of depression, anxiety and stress respectively.

Conclusion: This study reflects adolescent pregnancy as a threat to society and demands a thorough exploration. Despite government schemes and legislations, it continues to be prevalent in community.

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Introduction:-

Adolescence is a phase of transition, characterized with rapid physical growth and psychological development, between juvenile and adulthood. The World Health Organization (W.H.O), defines adolescence as the period of life between 10 to 19 years (Adolescent Health, n.d.).

Early marriage is a hidden, yet known practice in several regions of the world where the girl experiences number of health, social, economic, and emotional problems. The consequence that follows it, is termed as adolescent

pregnancy, synonymously used for teenage pregnancy. Deprived mental stability and physical immaturity, leaves a negative influence on the health of both mother and child (Bhattacharjya et al., 2021).

Global Burden for adolescent pregnancy

In 2020, the global population for adolescent girl was 605,000,000 and projected to increase up to 643,000,000 by the end of 2030 (Undesa_pd_2020_sdg372_elearning_tool.Pdf, n.d.). Each year, an estimate of 21 million adolescent girls conceive, and 12 million of them become teenage mothers (Sully et al., 2020).

United Nations' third Sustainable Development Goal (SDG 3), mentions about Annual Birth Rate (ABR)(3.7.2), that shows risk of childbearing in that respective age group. It is the annual number of births for the age group (10-14 or 15-19 years) per 1,000 females (W.H.O)(Indicator Metadata Registry Details, n.d.).

A report by W.H.O, titled 'Making Pregnancy Safer Notes, Volume 1, No.1, October 2008' mentions ABR of low and middle-income countries (LMIC) to be as high as twice that of their counterparts (Making-Pregnancy-Safer-Notes-Adolescent-Pregnancy-Volume-1-Number-1.Pdf, n.d.). Countries like India, Democratic Republic of Congo, Ethiopia, Nigeria, Brazil, Bangladesh and United States, negatively contribute to half of adolescent births globally, whereas countries like Japan and the Republic of Korea have a minimal share of less than 1% every year.

The Indian Context

Under the Prohibition of Child Marriage Act, 2007 in India, numerous efforts were made to generate awareness about negative impacts of adolescent pregnancy through mass media campaign. Yet in 2017, adolescent pregnancies were recorded to be approximately 11.8 million worldwide (Sharma et al., 2021).

States like Tripura (18.8%), West Bengal (18%) and Assam (14%) had higher prevalence than rest of the states (National Family Health Survey 4). As per NFHS-5, rates have increased since last survey for Tripura (18.8% to 21.9%) and reduced by just 2% in West Bengal and Assam. Lack of a strong decentralized health system, improper functioning or under-reporting may be a cause that requires more research and can be considered as a gap.

Problem Statement

Unlike the rest of the world, factors leading to adolescent pregnancy are different in India (Saloi et al., 2017). Customs of early marriage, family size, disoriented family, religion, place of residence, lack of education and lack of sexual and reproductive health knowledge are some of the evident socio-cultural factors, mentioned in different literatures (Thapa et al., 2021) (Mathewos & Mekuria, 2018). Anaemia, abortions, stillbirth, pregnancy induced hypertension, malnutrition are few of the health issues faced by adolescent mothers (Keskinoglu et al., 2007).

Apart of this, school dropout, unemployment and psychological issues such as anxiety, depression, and stress are various socioeconomic issues associated with problem of pregnancy among the adolescents (Poudel et al., 2018).

Need for the Study

Adolescent pregnancy is a prevalent problem that is more likely to affect backward and marginalized communities of our country. Lack of job opportunities, poverty and illiteracy are some prominent contributors (Nadar, 2022).

There is one such oppressed, weaker group of people residing in Assam known as tea-garden community, popularly called as Adivasis who were brought in from Jharkhand, Madhya Pradesh, Bihar, Orissa and nearby states into Assam during colonial rule. They were the prime source for fulfilling the colonial powers' need for manual labour (UNICEF Sponsored Research Project, 2014). Their settlements are found everywhere in Assam but majorly found settling in the districts of Sivasagar, Dibrugarh, Jorhat, Tinisukia Lakhimpur, Darang, Hailakandi. They have been recognised as backward classes by the government of Assam (Hazarika & Boruah, 2020).

Due to ignorance and exploitation from higher authorities in almost every sector, they tend to remain illiterate, socially and economically backward, leaving them vulnerable to all sorts of negative outcomes and diseases (das, 2015).

The limited source of literature for the problem prevailing in this particular group has influenced the researcher to conduct the study. The aim of the researcher was to study this community, focussing on the adolescent girls entrapped in the burden of teenage pregnancy.

This therefore, brings us to the objectives for our study, which are as follows:

- a. To evaluate the prevalence of pregnancy among adolescent girls from tea garden community.
- b. To explore the socio-demographic, cultural and economic factors influencing pregnancy among adolescent girls from tea garden community.
- c. To assess the mental status of the adolescent girls with regards to depression, anxiety and stress using DASS-21 scale.

Materials and Methods:-

A descriptive community-based cross-sectional approach was followed in the present study. In this design, an outcome or a condition and its potentially related factors are measured at a specific point in time for a defined population.

Data was collected from study participants regarding their socio-demographic characteristics, economic factors like the income of the participant, income of the family members, socio-cultural factors including family size and school drop-out reason etc. They are considered as independent variables and the outcome which is adolescent pregnancy is the dependant variable.

This study was conducted from February 2020 to May 2020, among adolescent girls (10-19 years), native of tea garden community of Sivasagar district of Assam.

Study Setting

The study was conducted in rural tea belts of Sivasagar district (26.45°N and 27.15°N latitudes and 94.25°E and 95.25°E longitudes) of Assam ("Sivasagar District," 2023). With a population of 6,92,435 and geographical area of 1598.85 sq. km, it shares its boundaries by the Brahmaputra River (North), Nagaland (South), Charaideo (East) and Jhansi River (West) ("Sivasagar District," 2023) (Home | Sivasagar | Government Of Assam, India, n.d.).

Known for its distinct and diversified identity and different races, tribes, groups, and cultures live in harmony. The tea garden community, are estimated to be around 20% of the total population of the State and are declared "most backward communities in Assam" (Tea Garden MMU | Biswanath District | Government Of Assam, India, n.d.).

Sample size

The sample size is calculated using the single population proportion formula with specific assumptions. According to the NFHS – 4 (2015-2016) data, the proportion of adolescent pregnancy among 15-19 years of age females of Assam is 13.60 %, which is considered as expected prevalence. Considering a 5% margin of error and 95% confidence interval along with 10% non-response rate, the final calculated target sample size obtained, is 282.

Inclusion Criteria

Female adolescents (10-19 years) who were married and pregnant at the time of study are included.

Exclusion Criteria

Adolescent mothers who were married before 19 years, but conceived after 19 years are excluded from the study.

Sampling Technique

(Figure 1), describes the sampling technique used for conducting the study. There are 85 Tea Estates listed under government of Assam (List of Tea Garden at Assam | Directorate for Welfare | Government Of Assam, India, n.d.). Among them, 12 Tea Estates were randomly selected for sample collection.

A brief meeting with the ASHA workers was conducted by researcher at a local Urban Health Center (UHC), where researcher explained them the study objectives. Information regarding any eligible participants and their present scenario for their assigned tea estate was enquired by the researcher.

Moreover, a group of 5 ASHAs were formed from every respective tea estate to help trace participants. Participants were divided into two groups of age group 11-15 years and 16-19 years. All the adolescent girls, married and conceived before 18 years were included while those who married before 18 years, but conceived after 19 years or later were excluded.

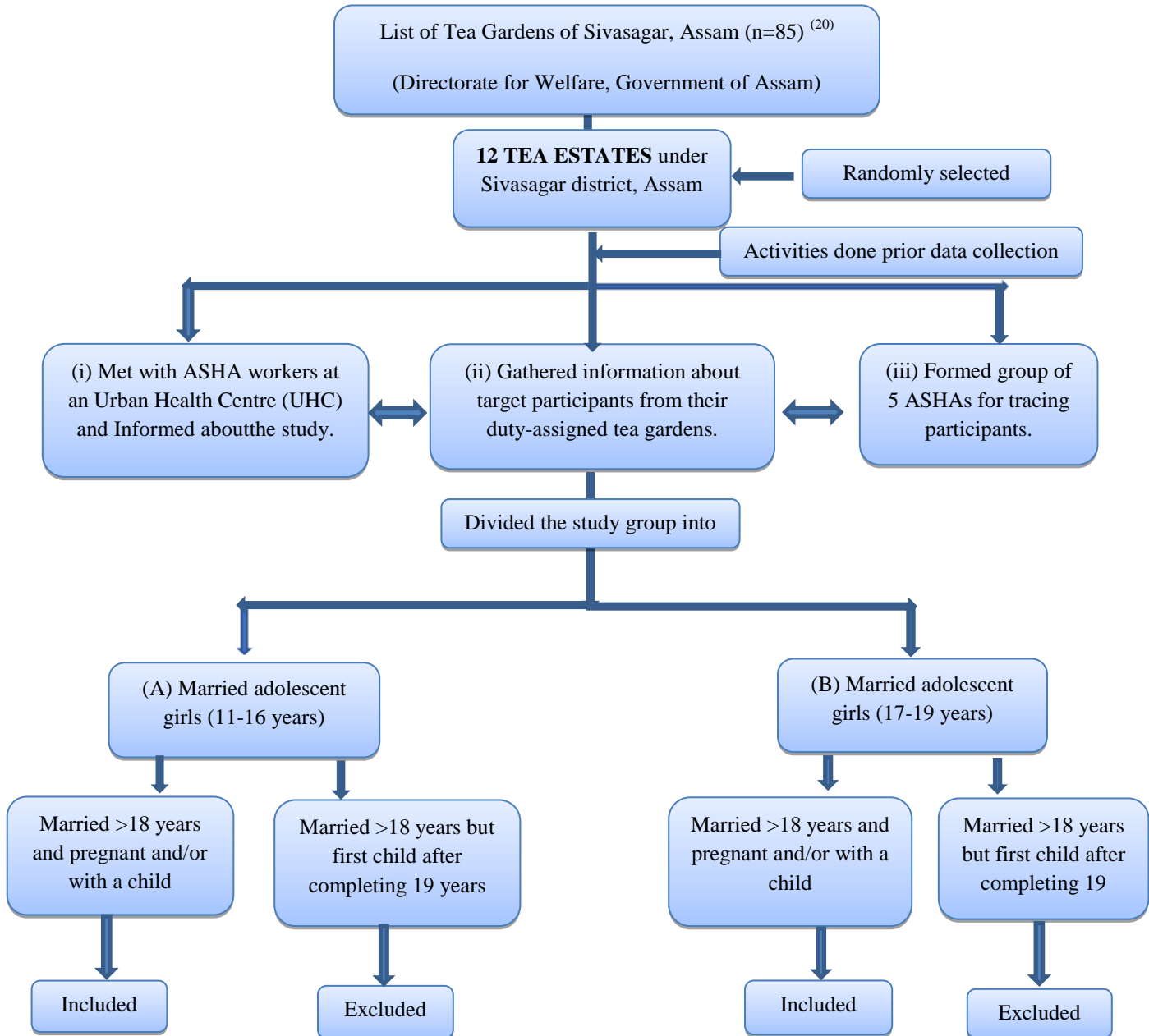


Figure 1:- Flow-chart of the Sampling technique.

Tools for Data Collection

Data was collected using a semi-structured interview schedule with pre-designed questionnaire which was translated to Assamese (preferred language) for better understanding.

To assess mental health status of the respondents we have used Depression, Anxiety, Stress Scale-21 (DASS-21)(Lovibond, 1995). The assumption on which the DASS-21 development was based, is that the differences between the depression, anxiety and the stress experienced by normal subjects(DASS-21.Pdf, n.d.).

Operational definitions

i. **Adolescent pregnancy** is a pregnancy that occurs for an adolescent girl, whose age is under 10-19 years, as defined by W.H.O. (WHO_RHR_14.08_eng.Pdf, n.d.). It could be either intended or unintended.

Data Analysis

Data was analysed for descriptive statistics and presented as frequency and percentage. The association between the outcome and some of the selected variables was calculated using chi-square test and odds were calculated at 95% CI. Significance was considered at $p < 0.05$. Some of the results were presented in pie charts and bar diagrams designed in Microsoft Excel. Statistical Package for Social Sciences (SPSS) version 21.0 were used for data analysis.

Ethical considerations

Informed consent was obtained in the local language. Because most of the participants were unable to read, the consent form was explained, and the consent was obtained verbally in the presence of an ASHA worker from the local area. Institutional Ethics Committee approval was taken before conducting the study.

Results:-

In this study, researcher collected response from a total of 330 eligible participants selected randomly from 12 Tea estates in and around Sivasagar. Socio-demographic, cultural, economic and psychological characteristics of our participants were explored that influences adolescent pregnancy.

(Table 1) explains the socio-demographic characteristics of 330 adolescent pregnant girls. 51 (15.45 %) of them were under the age group of 11-16 years and 279 (84.55%) belonged from 17-19 years. 304 (92.12%) practised Hinduism, whereas 23 (6.97%) were Christians, and only 3 (0.91%) were Muslims.

In terms of ethnicity, 271 (82.12%) were from Other Backward Class (O.B.C.), 56 (16.97%) of them were General category, whereas only 3 (0.91%) belonged from scheduled tribe and/or caste (ST and SC). Most of the participants i.e., 148 (41.60%), studied upto primary school, followed by participants 91 (27.58%) without any formal education, and 86 (26.06%) educated upto secondary school. Only 5 (1.52%) of the participants could graduate from a local college.

Majority of them i.e., 180 (54.55%) were housewives who had no job. About 147 (44.55%) of them had jobs that were based on a daily wage. The jobs they are mostly engaged with, are tea leaves planting, plucking, pesticides spraying, and other manual labour at the tea factory.

328 (99.39%) of them were married with one kid or were pregnant at the time of study and only 2 (0.61%) had separated from her partner. 323 (97.88%) of them were staying with her husband's family and 7 (1.85%) of them were staying either at her parent's home or separately.

Table 1:- Socio-demographic characteristics of study participants (n = 330).

Characteristics / variables	Frequency (n=330) *	Percentage (%)
Age		
11-16 years	51	15.45
17-19 years	279	84.55
Religion		
Hindu	304	92.12
Muslim	3	0.91
Christian	23	6.97
Caste		
General	56	16.97

ST	2	0.61
SC	1	0.3
OBC	271	82.12
Marital status		
Married	328	99.39
Separated	2	0.61
Educational Status		
No formal education	91	27.58
1-8 class	148	44.85
9-12 class	86	26.06
Degree	5	1.52
Living with		
Husband	323	97.88
Parents	6	1.82
Alone	1	0.3
Occupation		
Housewife	180	54.55
Daily waged worker	147	44.55
Others	3	0.91

(Table 2) describes about the socio-cultural features for our study participants. 220 (67%) of them were living in a joint family, with more than four members and merely 10 (3%) of the participants were living in a nuclear family set-up. Regarding the age at marriage, 277 (84%) of them were legally under 16 years when they got married and 53 (16%) were from 17-19 years. Almost (99%) of them married at their own will, and (95%) had planned and conceived their first born. School-dropout rate was also found to be high among the participants. 156 (47%) of them could study till fifth standard, and 131 (40%) could reach upto matriculate level.

Table 2:- Socio-cultural characteristic of study participants (n=330).

Characteristics / variables	Frequency (n=330)	Percentage
Members in family		
1-2,	10	3.03
2-4,	100	30.3
>4,	220	66.67
Age at marriage		
11-16 years	277	83.94
17-19 years	53	16.06
Marry at own will		
Yes	327	99.09
No	3	0.91
First pregnancy		
Yes	237	71.82
No	93	28.18
Planned pregnancy		
Yes	314	95.15
No	16	4.85
Knowledge of birth control		
Yes	257	77.88
No	73	22.12
Place of delivery		
Tea Garden Dispensary	298	90.3
Own House	32	9.7
Others	0	0
School drop-out class *		

0-5,	156	47.27
6-10,	131	39.7
11-12,	34	10.3
Degree	9	2.73

The researcher used DASS-21 scale to assess the mental health status of the participants with regards to depression, anxiety and stress.

The analysis in (Table 3), shows that, out of 330 participants, 41 (12%), 91 (28%), and 8 (2%) had “extremely severe” signs of depression, anxiety and stress respectively. Furthermore, 40 (12%) of the participants had “severe” signs of depression, whereas 48 (15%) and 34 (10%) were under severe treats of anxiety and stress respectively.

Table 3:- Phycological status of study participants (n = 330).

	Depression		Anxiety		Stress	
	Frequency (n=330)	Percentage (%)	Frequency (n=330)	Percentage (%)	Frequency (n=330)	Percentage (%)
Normal	108	32.7	88	26.7	203	61.5
Mild	53	16.1	28	8.5	36	10.9
Moderate	88	26.7	75	22.7	49	14.8
Severe*	40	12.1	48	14.5	34	10.3
Extremely Severe**	41	12.4	91	27.6	8	2.4

(Table 4) shows the test of association of adolescent pregnancy (dependent variable) with some of socio-demographic characteristics (independent variable) using bi-variate analysis. Chi-square test is performed and p-value is set to be less than 0.05, which will signify a significant association.

Here, the chi-square value for religion to the outcome is calculated to be 13.98, with p-value (0.01), which is lesser than ($p < 0.05$). This proves that both religion and pregnancy among adolescents are significantly associated.

Table 4:- Test of association between adolescent pregnancy with demographic variables.

Variables / characteristics	Adolescent Pregnancy		Chi-square value	*P-value
	11-16 years	17-19 Years		
Religion				
Hindu	47	257	13.98	*0.01
Muslim	0	3		
Christian	4	19		
Caste				
General	5	51	8.75	0.19
ST	0	2		
SC	0	1		
OBC	46	225		
Monthly Income of family (RS)				
0-1500	27	163	1.60	0.81
1501-3000	23	109		
3000	1	7		
Educational Status				
No formal education	25	131	3.59	0.73
1-8 class	17	114		
9-12 class	8	26		
Degree	1	8		
Occupation				
Housewife	26	154	1.96	0.74
Daily waged worker	25	122		

others	0	3		
No. of family members				
1-2,	0	10	3.16	0.53
3-4,	13	87		
4+,	38	182		

p-value < 0.05 is significant

Discussion:-

From the present study conducted, prevalence of pregnancy among adolescents for (11-16 years) and (17-19 years) was 16% and 85% respectively. This was high when compared to state's data. Adding more rationality to the result was, the observation made by the researcher that, number of eligible participants included in the study is higher than calculated sample size. This proves that pregnancy among adolescents belonging from the tea garden community is a serious issue, that needs in-depth research.

In our study, the prevalence of illiteracy among adolescents was 27% (Figure 1). Similar to our findings, the prevalence of illiteracy was found to be 32% in a study conducted by Paladugu et al (Paladugu et al., 2018). Studies with similar objective (Gandhi et al., 2011) (Thekkekkara & Veenu, n.d.), mentions that increase in educational status of teenage pregnant mother, increases age of marriage and conceiving. This proves that education plays an important role in uplifting the teen mother's social and cultural life, helping her to be a better decision-maker.

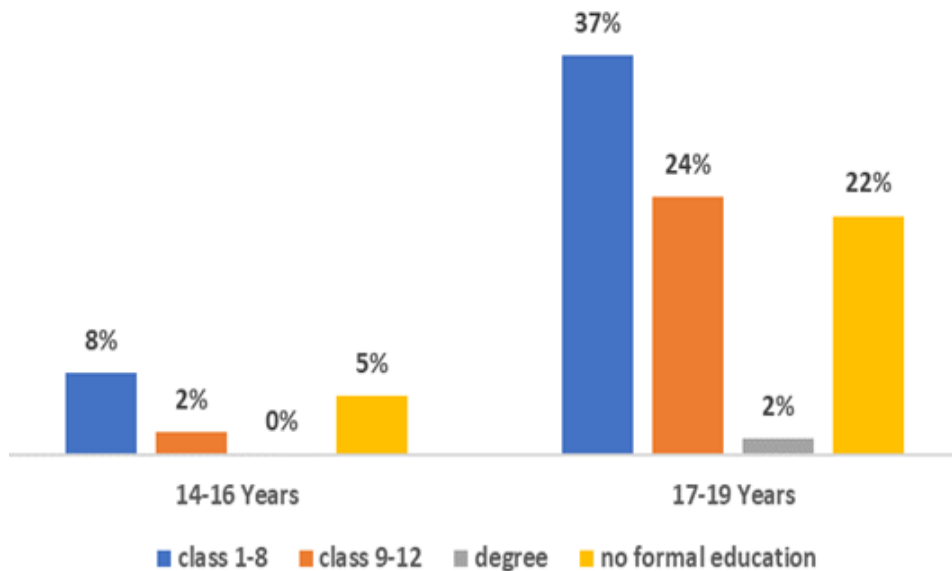


Figure 1:- Educational status of the study participants.
Source: self.

Issue of school-dropout is a problem prevalent among pregnant adolescent mothers of the community. When enquired, majority of the participants mentioned that, because of parental pressure, they were forced to leave school and earn for the family as early as possible. This not only detaches them from going to school but also makes them lose interest towards it (Figure 2). Burman et al (Jk & Sk, n.d.) study also finds similar observation where teenage mothers wanted to continue their study but was discouraged by their families, society, and even by in-laws.

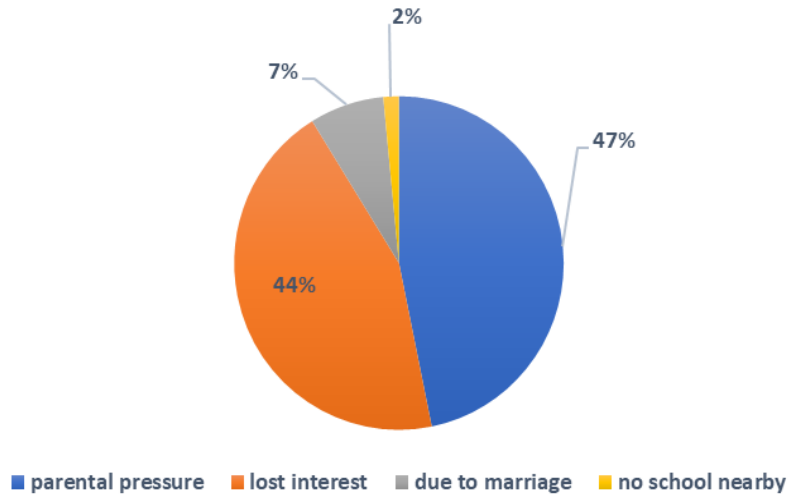


Figure 2:- Reasons for school-drop out.

Source: self

Another factor found in our study that influence pregnancy among adolescent girls from the marginalised community is the poor economic condition they survive on. Similar study (Akanbi et al., n.d.), finds a strong link between parent's socioeconomic status and the outcome of adolescent pregnancy. In our study, more than half i.e., 58% of the pregnant adolescent mothers were earning below RS 1500 per month (Figure 3). This is a very minimal amount to have a stable life and for someone who has newly become mother, it gets difficult to survive with such small earning.

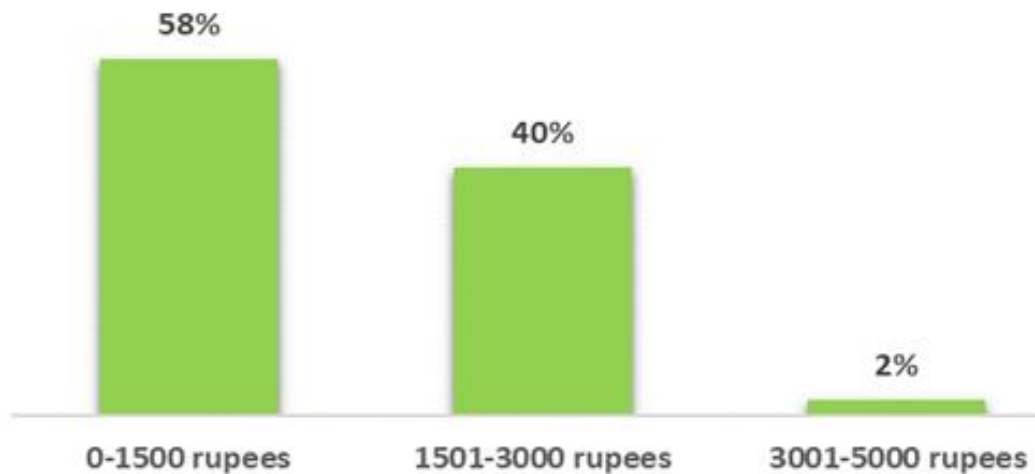


Figure 3:- Monthly income of the participants (in RS).

Source: Self.

Limitations

The study comes with few limitations which are as follows. The findings from the study cannot be generalized, as all study participants were selected from only 12 Tea Estates of a single district. The sample size is also limited. Hence, it will not be a representative of the general population as a whole, and findings must be carefully used for generalising it.

Conclusion:-

This study shows that adolescent pregnancy is a threat to the society. The motive of conducting this research was to explore the problem. In spite of continuous effort from government through various schemes and legislations, it is still very much prevalent among the under-privileged girls from the community. Some of the socio-demographic characteristics, cultural practices, poor socioeconomic status, low rate of literacy with school drop outs along with lack of knowledge and poor attitude towards the risks are some of the main associated factors.

Recommendations:-

It is recommended that in future, more in-depth longitudinal, and multi-institutional studies will help gain better understanding of various factors related to adolescent pregnancy and would adequately address these limitations.

Conflict of Interest:

Nil.

Source of Support:

Nil.

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