Determinants and Predictors of Childhood Trauma Among School-Going Adolescents of West Tripura District: A Cross-Sectional Study

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ABSTRACT

Introduction: Childhood trauma (CHT) is often described as adverse childhood experiences. Children may go through a range of adverse childhood experiences that are known as abuse and neglect. Abuse is an intentional misconduct whereas neglect is an unintentional misconduct. These can be rooted through various dimensions: physical, emotional, sexual. CHT has been correlated with negative effects in health and wellbeing in later in life.

Though CHT is largely preventable, there is concern about the rising prevalence of CHT globally. Therefore, it is imperative to know the prevalence and factors associated with CHT. There is paucity of studies about CHT in north-east India.

Aims & Objectives: To estimate the prevalence, to assess the patterns of childhood trauma among the school-going adolescents of west Tripura and to find out the determinants associated with CHT.

Methodology: A descriptive cross-sectional study was conducted in the schools of West Tripura including all the districts. Childhood Trauma Questionnaire (CTQ) was used as study tool. Multistage random sampling was used. Sampling size was calculated as 256 students from class 6 to class 12. Sample size was estimated based on the prevalence of CHT where 20.9% of adolescents experienced CHT. Sample size came as 256. Descriptive statistics, chi-square test was used. Binary Logistic Regression was used to find out the determinants which can predict CHT. Stepwise Logistic Regression Model was used to identify the predictors whose inclusion can change the model significantly.

Results: The level of CHT in West Tripura district was found as 47.3%. Out of which, Emotional Abuse (52%) and Physical Neglect (49.2%) were the most prevalent CHT pattern. Age, gender, family income and educational status of father were found to be significantly associated with CHT. Items like "My family looked out for each other", "someone took me to see the doctor when I needed to" and "Someone tried to touch me in a sexual way or tried to make me touch them" can predict the likelihood of CHT significantly.

Conclusion: The level of CHT found in West Tripura district was 47.3%. Age, gender, family income and educational status of father were found significantly associated with CHT.

INTRODUCTION

Childhood trauma (CHT) or adverse childhood experience (ACE) encompassing abuse (intentional maltreatment) and neglect (unintentional maltreatment) is a major global public health concern. One in four adults report having suffered physical abuse as children, while one in five women and one in thirteen men report childhood sexual abuse.[1] Experiences of abuse during formative years are strongly associated with adverse outcomes in physical health, psychological wellbeing, academic achievement and social functioning .[2,3] The long-term consequences may extend into adulthood manifesting as depression, anxiety, substance misuse, psychosis, chronic illnesses and difficulties in interpersonal relationships .[4]

CHT can alter brain structure and function in areas of brain responsible for fear response, executive function and reward processing. Repeated exposure to stress can lead to an overactivated Hypothalamic-Pituitary-Adrenal (HPA) axis, causing a chronic surplus of stress hormones and keeping the body in a state of heightened alert.

Chronic stress from CHT can lead to long-term physical conditions, including an increased risk of heart disease, cancer and a shorter lifespan. Clinicians should be aware of the potential for underlying trauma when a patient presents with a wide range of physical symptoms or mental health issues. CHT can impact treatment response for many physical conditions. Due to the prevalence and complexity of trauma's effects, there is need for increased specialist training and clinical capacity in this area.

Despite growing awareness, many cases of childhood abuse remain underreported due to stigma, family honors concerns, fear and lack of adequate systems for identification and intervention. [5, 6] This underreporting contributes to the persistence of the cycle of abuse and hampers the development of effective prevention and treatment strategies.

Therefore, to study CHT is imperative. It is also critical for several reasons. First, early identification of risk factors of childhood trauma can guide preventive interventions and strengthen child protection systems. Second, understanding the short- and long-term effects of abuse allows policy makers and health care providers to design targeted therapeutic and rehabilitation programs .[7] Third, regional and cultural variations in the prevalence and reporting of abuse highlight the need for context-specific evidence. [8] Individuals with histories of childhood physical or sexual abuse were at significantly higher risk of depression and suicidal ideation in adulthood .[9] childhood maltreatment is strongly linked to increased risk of anxiety, substance abuse and psychosis. [10] Exposure to abuse and household dysfunction in early life is associated with chronic disease such as ischemic heart disease, cancer, diabetes later in adulthood. [11] Childhood sexual abuse predicted later difficulties in educational attainment, employment and social functioning .[12]

As context-specific evidence regarding CHT is limited in north-east India, this study was planned to estimate the prevalence of CHT and to find out the determinants which are associated and which can predict CHT among the school-going adolescents of West Tripura.

Aim and Objectives
1. To estimate the prevalence and to assess the pattern of childhood trauma among the school-going adolescents of West Tripura
2. To find out the determinants associated with childhood trauma
3. To identify the predictors whose inclusion can change the likelihood of childhood trauma significantly.

METHODOLOGY

A descriptive cross-sectional study was conducted among the school-going

adolescents of West Tripura during the period for 20(Twenty days) from 12th June'2025.The study setting was the secondary and higher-secondary schools of West Tripura. All the school-going adolescents of the district were the study population.

Sample size was estimated assuming the prevalence of childhood trauma among school-going adolescents as 20.9% from a study[13] which comes to 256. Sampling was done by multistage random sampling method. There are three sub-divisions in West Tripura: Sadar, Mohanpur and Jirania. Four schools were selected from three sub-divisions taking two schools from Sadar sub-division and one school each from Mohanpur sub-division and Jirania sub-division by population proportionate to size technique (PPS). Kshudiram Basu English Medium School and Henry Derozio Academy Higher Secondary school were selected from Sadar sub-division by Simple Random Sampling (SRS). Similarly, Mohanpur Higher Secondary School and Palli Mangal Higher Secondary School were selected from Mohanpur and Jirania sub-division respectively. 64 students were selected from each of the four schools taking each and every class of all the four schools by PPS. Childhood Trauma Questionnaire (CTQ)[14]

was used as study tool. Data were collected by visiting all the classes of selected schools. Data were analyzed using SPSS-21. Scoring was done according to the scoring system mentioned in CTQ. Categorization in different level of abuse and neglect was done according to same study tool. Descriptive statistics like frequency, percentage were used to describe the socio-demographic attributes and five categories of CHT. Inferential statistics like chi-square test was used to find out the determinants significantly associated with CHT. Binary logistic regression was used to find out the determinants which can predict CHT. Stepwise Logistic Regression model was used to identify the predictors whose inclusion can change the likelihood of CHT significantly.

Requisition for collection of data was given to every school. Assent was taken from all the participants. Confidentiality of the study was maintained. The study was conducted by the medical students of Agartala Government Medical College (AGMC), Tripura in pursuance of their academic routine issued by the authority of AGMC. Approval was taken from the competent authority of AGMC.

RESULTS

Table 1: Distribution of study participants according to age

Age groups	Number(N)= 256	Percentage (%)
10-13 years	95	37.1
13-16 years	96	37.5
16 years and above	65	25.4

The table shows maximum of the study participants were in the age bracket of 13-16 years.

Table 2: Distribution of study participants according to gender

Gender	Number(N)=256	Percentage (%)
Male	129	50.4
Female	127	49.6

The table shows that majority of the study participants were male.

Table 3: Distribution of study participants according to religion

Religion	Number(N)=256	Percentage (%)
Hindu	193	75.4
Islam	11	4.3
Christian	42	16.4
Others	10	3.9

The table shows that majority of the study participants were Hindu by religion.

Table 4: Distribution of study participants according to father's education

Educational status	Number(N)=256	Percentage (%)
Illerate	14	5.4
Primary	24	9.4
Secondary	96	37.5
Matriculate	11	4.3
Higher Secondary	90	35.2
Graduate	11	4.3
Postgraduate	10	3.9

The table shows that the educational status of fathers of maximum of the study participants was up to secondary stage.

Table 5: Distribution of study participants according monthly income of families

Monthly income in Rupees	Number(N)=256	Percentage (%)
Below 20000	73	28.5
20000-40000	73	28.5
40000-60000	68	26.6
More than 60000	42	16.4

The table shows that monthly family income of maximum of the study participants were Rupees 20000-40000 and below Rupees 20000.

Table 6: Distribution of study participants according to the perception that their parents were too drunk/high to take care of them

Educational status	Number(N)=256	Percentage (%)
Never True	189	73.8
Rarely True	18	7.1
Sometimes True	29	11.3
Often True	17	6.6
Very often True	3	1.2

The table shows that majority of the study participants perceived never their parents were too drunk.
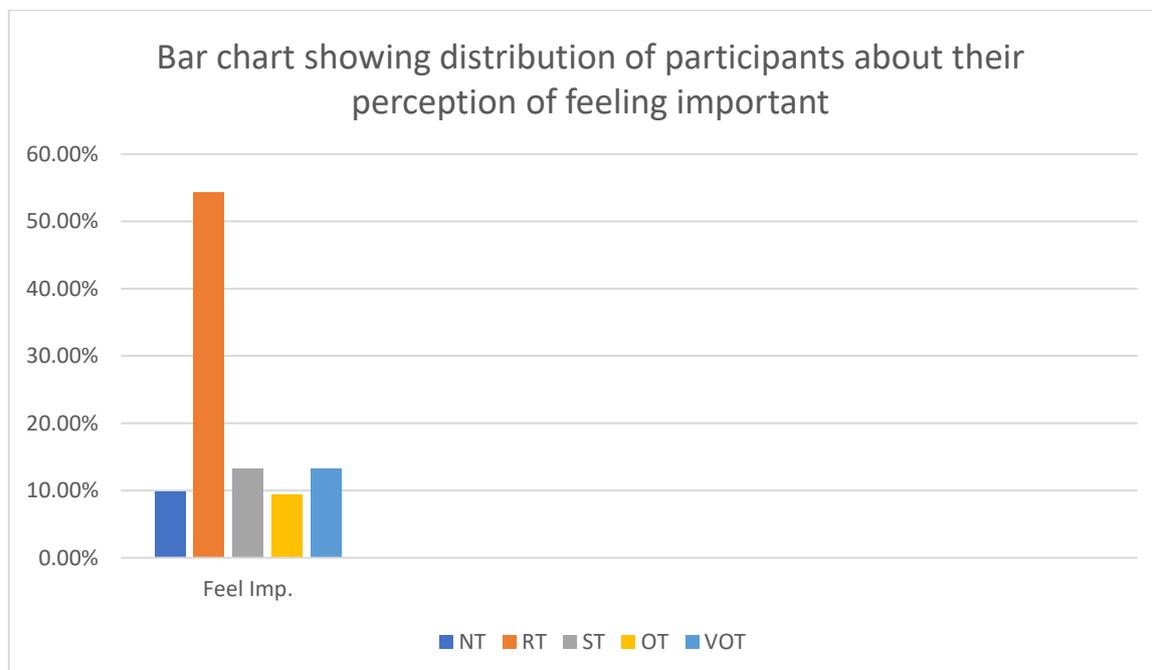

Fig 1: Bar diagram showing distribution of participants about their perception of feeling important (NT=Never true, RT= Rarely True, ST= Sometimes True, OT= Often True, VOT= Very often True)

Fig 1 shows that majority of the study participants perceived rarely that somebody helped them to feel important

Table 7: Distribution of study participants according to the perception that they were felt loved

Perception	Number(N)=256	Percentage (%)
Never True	108	42.2
Rarely True	95	37.1
Sometimes True	48	18.8
Often True	5	1.9

The table shows that maximum of the study participants perceived never that they were felt loved.

Table 8: Distribution of study participants according to the perception that they were tried to touch by someone a sexual way or tried to make them touch to someone

Perception	Number(N)=256	Percentage (%)
Never True	126	49.2
Rarely True	122	47.7
Sometimes true	8	3.1

The table shows that maximum of the study participants felt never that they were tried to touch by someone in a sexual way
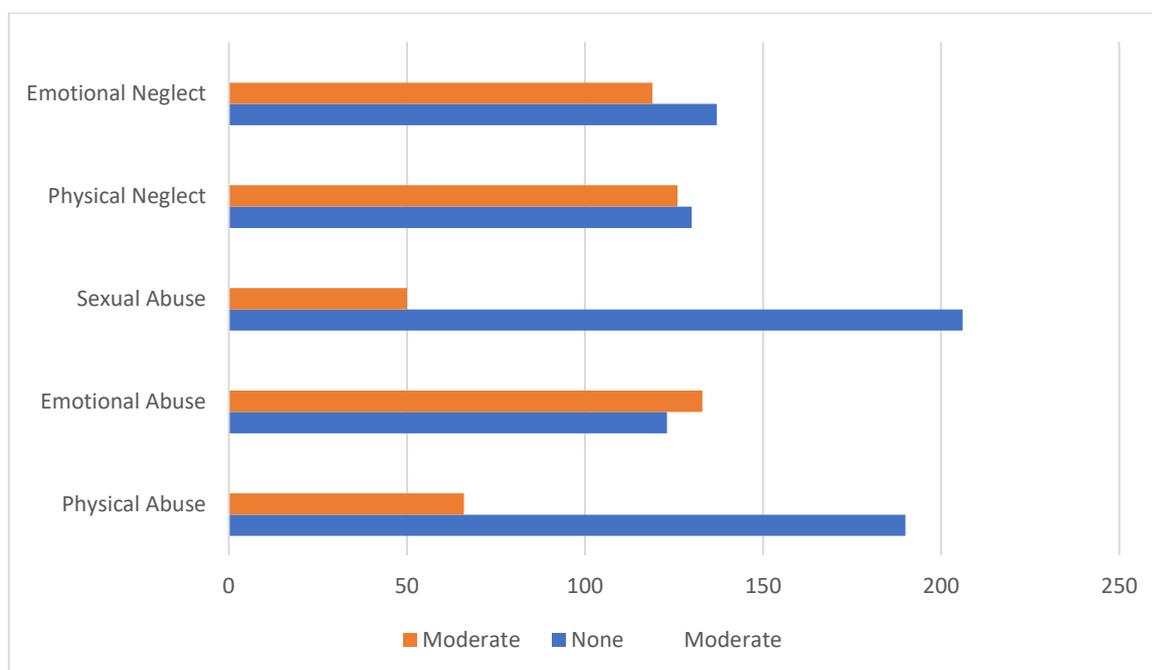

Fig 2: Multiple bar diagram showing the level of childhood trauma (CHT) across different categories

Multiple bar diagram shows that 66, 133, 50, 126, 119 number of participants received physical abuse, emotional abuse, sexual abuse, physical neglect, emotional neglect respectively in moderate amount.
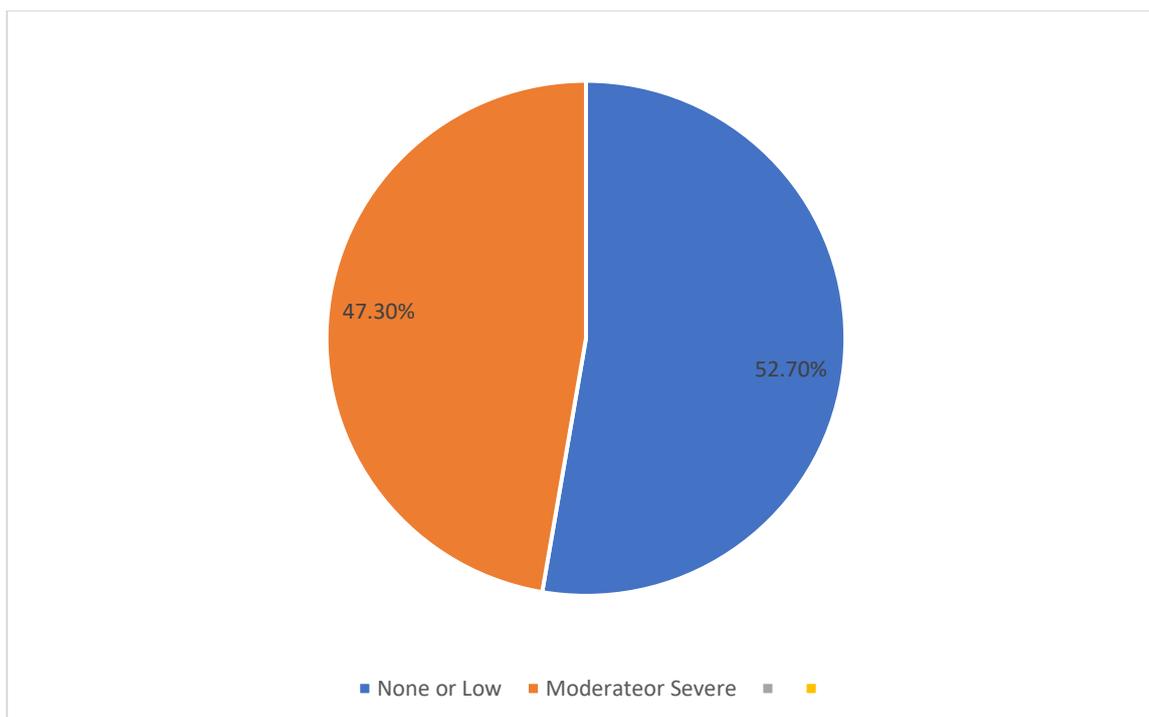
Fig 3: Pie chart showing the levels of childhood trauma (None or low-52.7%, Moderate or severe-47.3%)

Pie chart shows that 47.3% of the participants received CHT.

Table 9: Chi-Square Test showing association between sociodemographic determinants and level of childhood trauma

Age(years)	None or mild trauma(N=135)	Moderate or severe trauma(N=121)	χ^2 value	df	p-value
10-13	17	78	73.752	2	0.000
13-16	69	27			
16 and above	49	16			
Gender					
Male	92	37	36.028	1	0.000
Female	43	84			
Education of Father					
Illiterate	6	8	196.876	6	0.000
Primary	7	17			
Secondary	5	72			
Matriculate	8	6			
Higher secondary	88	6			
Graduate	11	6			
Postgraduate	10	6			
Monthly Family income (in Rupees)					
20,000	8	68	94.000	3	0.000
20,000-40,000	43	30			
40,000-60,000	53	15			
More than 60,000	31	8			

The table shows that age, gender, monthly family income of the participants and educational status of the father of participant are associated significantly with the level of trauma (none or mild trauma and moderate or severe trauma).

Table 10: Binary Logistic Regression predicting childhood trauma

Explanatory variables	Beta	Standard Error (SE)	Degree of Freedom(df)	p-value
Age	0.958	0.378	1	0.011
Gender	1.233	0.603	1	0.041
Religion	16.271	2563.541	1	0.995
Education of father	1.445	0.270	1	0.000
Family income	1.000	0.305	1	0.001

The table shows that age, gender, educational status of father and family income independently can predict independently the level of childhood trauma when other explanatory variables remain constant.

Table 11: Stepwise Logistic Regression showing the predictors of Childhood Trauma

Variables added stepwise	Odd's Ratio (OR)	95% Confidence Interval (CI)		P-value
		Lower	Upper	
Family looked out each other	0.037	0.010	0.129	0.000
Took me to doctor	0.036	0.012	0.107	0.000
Tried to touch	5.789	2.626	12.761	0.000

It is evident from the logistic regression analysis that the inclusion or exclusion of variables like: *"My family looked out for each other"*, *"Someone took me to see the doctor when I needed to"*, and *"Someone tried to touch me in a sexual way or tried to make me touch them"* can predict the likelihood of childhood trauma significant.

DISCUSSION

This is one of the few studies done in North-East India done in school-setting to explore the prevalence and determinants of CTH. In our study, prevalence of CHT was 47.3% which is less than the national standard. [15] Prevalence of CTH reported was 36% in another study [16] done in community setting. A cross-national review concluded that the prevalence of adverse childhood experiences varies between 20% and 50%, depending on the type of trauma and cultural context.[17] The finding of our study falls within this range. In our study, childhood abuse and neglect fall within the top two CHT which is in line with another study.[18]

In this study, age and gender of child, family income, parental educational status was found to be significantly associated with CHT like other studies conducted elsewhere. [19]

Our study confirmed that items like "my family looked out for each other", "someone took me to see the doctor when I needed to"

and "Someone tried to touch me in a sexual way or tried to make me touch them" can predict the likelihood of Childhood trauma significantly. This is consistent with studies conducted elsewhere.[3]

CONCLUSION

The level of childhood trauma in West Tripura district was 47.3%. Out of which, Emotional Abuse (52%) and Physical Neglect (49.2%) were the first two childhood trauma patterns according to prevalence. Age, gender, family income and parental educational status were found to be significantly associated with CHT. Items like "My family looked out for each other", "someone took me to see the doctor when I needed to" and "Someone tried to touch me in a sexual way or tried to make me touch them" can predict the likelihood of childhood trauma significantly.

Recommendation

Children are the most precious and wonderful gift of God to human being. They will lead and shape the nation in near future. Adequate nurturing this gift is critical in this juncture. Childhood trauma can destroy and can take away this gift from us. To prevent childhood trauma, initiatives should come from all the stakeholders: individual, family, community, mass level, group level, Government level including all the sectors,

private level, NGO- in one-word holistic approach with active participation from all the stakeholders is the need of the hour.

Many national health programs are there to address the issue of CHT like National Mental Health Program (NMHP), UNICEF INDIA- child protection, Foundation for child Protection- prevention of child sexual abuse, Shakti Shalini- child protection unit program. This is the time to identify the implementation gaps from the grassroot level to the district level and if needed to the state level and to take remedial measures which will be locally acceptable, culturally feasible and effective in the long run. Monitoring and evaluation processes of the health programs related with CHT should be done regularly in a comprehensive way so that prevalence of CHT can be minimized by addressing the areas of emotional abuse and physical negligence.

There should be strict enforcement of laws by giving appropriate punishment to the trauma-giver, whoever may be, so that the any person will have to think twice before doing child abuse next time. For prevention of childhood neglect, health education in the form of Information-Education-Communication (IEC), Behavioral-Changes-Communication (BCC) to be done regularly for all the stakeholders making it as a regular program converging it with similar health programs. At the same time, implementation of all the aforesaid programs effectively from the village level to the district level is the need of the hour.

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