A Study of Prevalence of Emotional-Behavioural Problems among Adolescents Studying in Schools and Association with Socio-demographic Factors

Shija K[1*], Dr. Shanthi Nambi[2], Dr. Sreeja Indira[3], Dr. R.Vijayaraghavan[4]

[1] *Ph.D Scholar, Saveetha Institute of Medical and Technical Sciences (SIMATS), Chennai, Tamilnadu, India. vtrshija.k@gmail.com*
[2] *Professor, Department of Psychiatry, Saveetha Medical College, Chennai, Tamilnadu, India.*
[3] *Professor, Department of Mental Health Nursing, Ananthapuri College of Nursing, Ananthapuri Hospitals and Research Institute, Thiruvananthapuram, Kerala, India.*
[4] *Former Director, Department of Research and Development, SIMATS, Chennai, Tamilnadu, India.*

KEYWORDS
Adolescents, Emotional-Behavioural Problems, Conduct, Hyperactivity, Gender

ABSTRACT

Introduction*: Approximately 10 to 20 % of adolescents experience mental health problems globally and remain undertreated. The aim of this study is to identify emotional-behavioural problems among adolescents studying in schools and its association with socio-demographic variables.*

Methodology*: A descriptive survey design was used among 804 adolescents in the age group of 13 to 16 years from different schools of Thiruvananthapuram District of Kerala (India), by multistage cluster sampling. Socio-demographic variables were collected through structured questionnaire and emotional-behavioural problems (EBP)were assessed by Strengths and Difficulties Questionnaire (SDQ11-17), by self-reporting technique. Data were analysed by chi-square test.*

Results: *Among the 804 adolescents, 244 showed emotional-behavioural problems (30.3%). From the 244 adolescents with EBP, 30 were excluded based on the multiple problems reported from teachers and 214 adolescents were selected for detailed analysis. Based on SDQ score, among the 214 adolescents, 66.4 % showed score of borderline and 33.6 % showed score of abnormal patterns. There was no significant association with type of residence (urban/rural), type of family (nuclear/joint), father's education (school/college) and mother's education (school/college) with total difficulties score (TDS), hyperactivity, emotional symptoms, conduct problems, peer problems and pro-social behaviour. However, the gender showed significant difference in emotional problems, conduct problems and pro-social behaviour (P = 0.050, < 0.001 and 0.003, respectively). Majority (71.4 %) of males showed normal score on emotional problems, while in female it was 59.5 % only. The borderline and abnormal was 28.6 % in male and 40.5 % in female. Only 28.4 % male showed normal conduct, while in female it was 71.6 %. The borderline and abnormal was 71.6 % in male and 28.4 % in female. The male showed 72.4 % normal pro-social behaviour, and 27.6 % borderline and abnormal together, while the female showed 89.7 % normal pro-social behaviour, and only 10.3 % borderline and abnormal categories.*

Conclusion: *The study shows the prevalence of emotional-behavioural problems in school going adolescents is similar to the worldwide status. The problems were not associated with type of residence, type of family, and education of father or mother. However, the gender showed variations that the female showed high emotional problems and high pro-social behaviour with low conduct problems, while the male showed low emotional problems and low pro-social behaviour with high conduct problems.*

1. Introduction:

Adolescence is the period of emergence of excess irritability, anger, frustration and emotional disorders. This is the period of transition to adulthood that brings transformation in multiple areas of one's life as physical, psychological and social aspects. WHO defined adolescence as the period of lifespan between 10-19 years [1]. Globally one in six people belongs to this age group and onset of half of the mental health problems is by the age of 14 years, but remain undertreated.[2] Behavioral problems like suicidality, substance abuse and eating disorders are other emerging problems.[3] Younger adolescents in 10-14 years develop somatic symptoms which are emotion related and suicide is the third leading cause of death among elder adolescents [1]

Globally,10%-20% of adolescents have mental health problems and most of them are not diagnosed or undertreated[4]. India is the country with largest adolescent population and 1/4 th of Indian population are adolescents[5]. And in Kerala it is 1058 lakhs[6]

Adolescents being the promise of future, their mental health is a major concern for family, society and nation.

National Mental health survey in 2015-16 shows that prevalence of psychiatric disorders among

adolescents in the age group of 13-17years is around 7.3%. But many cases may remain undetected due to lack of knowledge and undertreated due to stigma.[7]

Prevalence of childhood psychiatric disorders increase from 1- 2% to10- 20% during adolescence which is similar to that in adults. Prevalence of depression and stress are more among school going adolescent girls.[3]

In case of adolescents with depression, 40-90% have comorbid psychiatric disorders like anxiety disorders, conduct disorders, personality disorders and substance use[3, 8]

In India, 25% deaths among adolescent boys and 50-75% of deaths among adolescent girls is due to suicide. As per National Crime Records Bureau report in 2015, in every hour one student commits suicide in India[9]

Conduct problems are the most prevalent one in adolescents in Thiruvananthapuram district of Kerala (36.4%)[10]

Study conducted in the Ernakulam district of Kerala shows the prevalence of depression among school going adolescents as 14.19%[11]

Self-reported Attention Deficit Hyperactivity Disorder (ADHD) symptoms among school going adolescents aged 12-19 years, in Kerala showed as 4.3%. Study also shows that when compared with Non-ADHD group, ADHD with combined type had poor academic performance and had significantly higher substance use, psychological distress, suicidality and sexual abuse.[12]

Many of these studies in Kerala have been conducted by focusing the mental health problems one by one. But clinically, it is observed that many of these problems coexist or overlap each other. As the school reopened in the post COVID period, a school based study on EBP of adolescents will help to identify the change in prevalence of the problem.

Though mental health problems among adolescents are identified in different studies, only one third of their families (37.5%) have perceived about their children's problems. Stigma about mental health problems and lack of awareness on mental health services further delays care seeking.[13]

So it is important to estimate the magnitude of the problem and to find out the associated socio demographic factors. This school based study has been conducted to assess the prevalence of emotional- behavioural problems among adolescents, which may contribute to health care planning and interventions

2. Methods

A descriptive survey was conducted in selected schools of Thiruvananthapuram district; both urban and rural areas were included. Data collection was done during second week of November 2022.

Sampling technique: A study conducted in Kollam district of Kerala in 2021 prevalence of emotional and behavioural problems among school going adolescents was 24.5%[14]. Based on this study, sample size was calculated by using $4pq/d^2$ and the minimum sample size required was 680.

Total of 804 adolescents were included in the study, by taking proportionate representation from Government, Government aided and Un- aided sectors.

Multi stage cluster sampling technique was used.

Adolescents in the age of 13-16 years, and studying in 8,9 and 10 th standards were selected, by random selection of one or two divisions from each standard and students who met the inclusion criteria were included. Adolescents with parents who were willing to give informed consent were included. Students with physical disability, mental sub-normality, chronic physical illness, adolescents receiving any treatment (drug therapy or psychological treatment) for any psychological problems were excluded.

2.1 Data collection method and Tools

Tool 1: Socio demographic data sheet, for the collection of demographic data of students

Tool 2: Strengths and Difficulties Questionnaire (11-17) : Self report version of Strengths and Difficulties Questionnaire- SDQ (11-17) was used to assess emotional and behavioural problems. Pen and paper self-report technique was used for data collection.[15]

SDQ (11-17) is a three point likert scale (standardized tool) for behavioural screening, developed by Dr. Robert Goodman to assess emotional and behavioural problems among the adolescents in 11-17 years. Validated Malayalam version of the tool[17] was used for the study. The questionnaire consists of 25 items which include five subscales of five items each; out of which one subscale assess strength in terms of pro social behaviour and other four subscales indicate difficulties. These four subscales together generate score as Total Difficulties Score (TDS) by adding scores of emotional symptoms, hyperactivity, conduct problems and peer problems.

The scores of five subscales are formed by summing the five items in each, with score of 0= 'not true', 1= somewhat true and 2= Certainly true. The four subscales that indicate difficulties was scored in this pattern to get the Total Difficulties Score (TDS), that shows emotional and behavioural problems. Total difficulties score range from 0-40 and 0-15 is normal, 16-19 is borderline and 20-40 is abnormal. Prosocial behaviour that indicate strength was scored in reverse manner as not true= 2, somewhat true =1 and certainly true= 0.

Reverse score pattern for items 7,11,14, 21 and 25. Scoring and interpretation was done with original three band categorized score (normal, borderline and abnormal) in each domain.

A pilot study was conducted among ten students, and aim of it was to test the clarity of the tools and to find out the time required to complete the questionnaire. Both questionnaire together required 35-40 minutes for completion.

2.2 Ethical considerations

Research proposal was approved by the institutional review board and Institutional Ethical Committee which is Government approved one (No. 005/05/2022/IEC/SMCH dated 05/01/2022). Setting permission was obtained from Deputy Director of Education, Department of Public Instruction, Thiruvananthapuram District, Kerala; Permission and informed consent was taken from Head master/ Head mistress of selected schools, students' assent and informed consents from the parents were obtained before starting the study. Purpose and nature of the study were well explained and anonymity and confidentiality were ensured. Students with borderline and abnormal score were selected for a multi component intervention. Based on the selection criteria for intervention, 214 adolescents were selected for multicomponent intervention.

2.3 Statistical analysis

Data entry, cleaning and coding were done using Statistical Package for Social Science (SPSS version 20). Prevalence of emotional and behavioural problems were analysed by using descriptive statistics.

The association of pre-test demographic variables of selected adolescents viz., gender, area of residence, type of family, father's education and mother's education of the adolescents were compared and analysed with total difficulties score (TDS) and each components of strength and difficulties questionnaire (SDQ) by □2 test. A probability of 0.05 and less was considered as statistically significant. Sigma Plot 14.5 version (Systat Software Inc., San Jose, USA) was used for statistical analysis.

3. Results

Socio demographic characteristics of adolescents are explained in Table 1

Table 1: Socio demographic characteristics of adolescents n=804

Sl. No	Variable	Category of variable	Frequency	Percentage
1.	Age in years	13.0	228	28.4
		14.0	344	42.8
		15.0	200	24.8
		16.0	32	4.0
2	Gender	Male	403	50.1
		Female	401	49.9
3	Area of residence	Urban	367	45.6
		Rural	437	54.4
4	Type of family	Nuclear	549	68.3
		Joint	255	31.7
5	Father's education	School	470	58.5
		College	334	41.5
6	Mother's education	School	360	44.8
		College	444	55.2

Participants were in the age group of 13-16 years and mean age of the participants were 14.04 ± 1.2 years. Male and female participants were almost equal (50.1% & 49.9% respectively). More than half (54.4%) were from rural area. Majority (68.3%), from nuclear family, 13.6% from joint family. Regarding parental educational status, more than half of (55.2%) mothers were with collegiate education; and 58.5% of fathers were with school education. Majority of mothers (54.5%) were housewives and 41.3% of fathers were unemployed; 20.5% and 25.4% were private employee and self-employed respectively.

Figure: 1 Prevalence of emotional- behavioural problems among adolescents

n=804

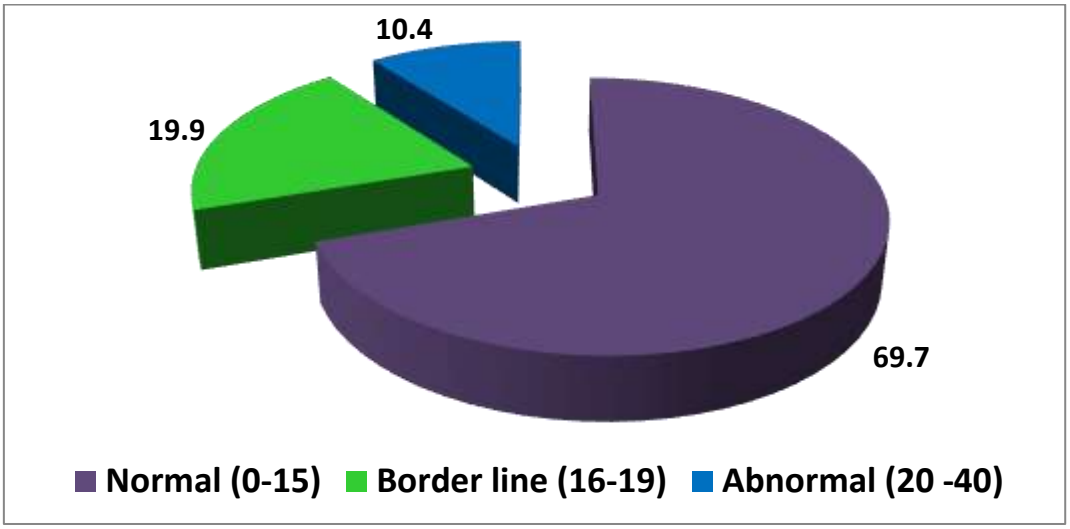

Figure 1 shows the prevalence of overall EBP among adolescents, based on the Total Difficulties Score (TDS) and interpretation of SDQ 11-17. Abnormal score or substantial risk of clinically significant problems were present in 10.4% of adolescents and 19.9% were with slightly raised score (border line category) that may reflect significant problems. Majority (69.7%) of the adolescents were normal and is unlikely to have clinically significant problems

Table 2: Prevalence of Emotional- behavioural problems based on Subscales of SDQ

n=804

Sl. No	Emotional-behavioural problems (EBP)	Grading of EBP and score	Frequency	Percentage
1.	Emotional problems	Abnormal (7-10)	57	7.1
		Borderline (6)	47	5.8
		Normal (0-5)	700	87.1
2.	Hyperactivity	Abnormal (7-10)	64	8.0
		Borderline (6)	69	8.6
		Normal (0-5)	671	83.4
3.	Conduct problems	Abnormal (5-10)	140	17.4
		Borderline (4)	110	13.7
		Normal (0-3)	554	68.9
4.	Peer problems	Abnormal (6-10)	91	11.3
		Borderline (4-5)	431	53.6
		Normal (0-3)	282	35.1
5.	Pro social behaviour	Abnormal (0-4)	66	8.2
		Borderline (5)	78	9.7
		Normal (6-10)	660	82.1

Table 2 shows the prevalence of different EBP, based on score of SDQ. Among the 804 adolescents, conduct problems were the most prevalent one among adolescents (31.1%), with substantial risk of clinically significant problems among 17.4% of adolescents and 13.7% had shown a slightly raised score which may reflect significant problems. Hyperactivity was seen among 16.6%, by combining those with abnormal pattern among 8.0% and borderline among 8.6%. Emotional problems were identified among 12.9 %, by taking together the abnormal and borderline scores of 7.1 % and 5.8% respectively. Risk of clinically significant problems on peer problems was seen among 11.3% and slightly raised score among 53.6%. Abnormal pattern of score on prosocial behaviour was low and was only 8.2%.

Table 3: Distribution of selected adolescents with EBP based on grading of TDS

n=214

Grading of Emotional-behavioural problems and TDS	Frequency	Percentage
Normal (0-15)	-	-
Border line (16-19)	142	66.4
Abnormal (20 -40)	72	33.6
Total	214	100.0

Table 3 points out the distribution of 214 adolescents with EBP who were selected for detailed analysis as per the Total Difficulties Score and grading of problems. Majority (66.4%) were with borderline pattern of score and 33.6% have shown abnormal pattern with substantial risk of clinically significant problems.

Table 4 Distribution of selected adolescents with emotional and behavioural problems based on the subscales of SDQ

n =214

Sl. No	EBP based on SDQ	Grading of EBP with SDQ score	Frequency	Percentage
1.	Pro social behaviour	Normal	175	81.8
		Borderline	25	11.7
		Abnormal	14	6.5
2	Hyperactivity	Normal	123	57.5
		Borderline	42	19.6
		Abnormal	49	22.9
3.	Emotional problems	Normal	139	65.0
		Borderline	31	14.5
		Abnormal	44	20.5
4.	Conduct problems	Normal	74	34.6
		Borderline	50	23.4
		Abnormal	90	42.0
5.	Peer problems	Normal	57	26.6
		Borderline	116	54.2
		Abnormal	41	19.2

Table 4 shows the distribution of adolescents with different emotional and behavioural problems who were selected for detailed study. Here also conduct problem was a dominant EBP (65.4%) by taking the borderline and abnormal score together.

The socio-demographic data of the adolescents with EBP selected for detailed analysis.

Table 5 – Socio-demographic data of adolescents with EBP selected for Phase 2

n=214

S. No.	Variable	Category of variable	Frequency	Percentage
1	Gender	Male	98	45.8
		Female	116	54.2
2	Area of Residence	Urban	114	53.3
		Rural	100	46.7
3.	Type of family	Nuclear	159	74.3
		Joint	55	25.7
4.	Father's education	School level	133	62.1
		Collegiate level	81	37.9
5	Mother's education	School level	104	48.6
		Collegiate level	110	51.4

Table 5 shows that among the 214 adolescents with EBP, selected for intervention phase; 54.2%were females. Majority of the participants (53.3%) were from urban area and 74.3% were from nuclear family. Parental education of adolescents showed that 51.4% of their mothers were with collegiate education and 62.1% of adolescents' father were with school level education.

Association between socio demographic variables and emotional- behavioural problems of adolescents based on SDQ

Association between selected demographic variables of 214 adolescents who were found to have EBP (by taking abnormal and borderline score together) and selected for next phase, were compared and

analysed with total difficulties score (TDS)and each components of strength and difficulties questionnaire (SDQ) by □2 test. A probability of 0.05 and less was considered as statistically significant. SigmaPlot 14.5 version (Systat Software Inc., San Jose, USA) was used for statistical analysis.

Table 6: Association between gender and emotional- behavioural problems of adolescents based on SDQ

S. No.	Variable	Category	Male- (f)	%	Female (f)	%	Statistics
1	Pro social behaviour	Normal	71	72.5	104	89.7	□2 = 11.320 P = 0.003
		Borderline	16	16.3	9	7.8	
		Abnormal	11	11.2	3	2.5	
2	Total difficulty score	Normal	-		-		□2 = 1.050 P = 0.306
		Borderline	61	62.2	81	69.8	
		Abnormal	37	37.8	35	30.2	
3	Hyperactivity	Normal	53	54.1	70	60.3	□2 = 1.410 P = 0.494
		Borderline	19	19.4	23	19.8	
		Abnormal	26	26.5	23	19.8	
4	Emotional problems	Normal	70	71.4	69	59.5	□2 = 5.931 P = 0.050
		Borderline	15	15.3	16	13.8	
		Abnormal	13	13.3	31	26.7	
5	Conduct problems	Normal	21	21.4	53	45.7	□2 = 14.605 P = < 0.001
		Borderline	25	25.5	25	21.6	
		Abnormal	52	53.1	38	32.7	
6	Peer problems	Normal	30	30.6	27	23.3	□2 = 2.861 P = 0.239
		Borderline	47	48.0	69	59.5	
		Abnormal	21	21.4	20	17.2	

n = 214
The '□2' and 'P' values are by chi-square test.

The association of gender with score of (SDQ) is given in Table 5. The pro-social behaviour score of males: normal, borderline and abnormal were 72.4, 16.3 and 11.2, % respectively. The pro-social behaviour score of females: normal, borderline and abnormal were 89.7, 7.8 and 2.6 % respectively. It was found to be statistically significant (P = 0.003). The boys showed less normal value compared to the girls.

Total difficulties score (TDS) of male: borderline and abnormal were 62.2 and 37.8% respectively. The TDS of female border line and abnormal were 69.8 and 30.2 % respectively. It was not statistically significant (P=0.306).

Hyper activity score of males: normal, border line and abnormal were 54.1,19.4, and 26.5% respectively. Hyperactivity score of females: normal, borderline and abnormal were 60.3, 19.8 and 19.9% respectively. Though the number of males with hyperactivity was more as compared to female, it was not statistically significant (P=0. 494).

The emotional symptom score of males: normal, borderline and abnormal were 71.4,15.3 and 13.3% respectively and emotional symptom score in female: normal, borderline and abnormal were 59.5, 13.8 and 26.7% respectively. More females have reported emotional problems when compared to that in male, and it was statistically significant as P= 0.050.

Conduct problem scores of males: normal, borderline and abnormal were 21.4,25.5 and 53.1% respectively and this in female: normal, borderline and abnormal were 45.7, 21.6 and 32.8% respectively. It was found to be statistically significant (P=< 0.001).

The peer problem score in male: normal, borderline and abnormal were 30.6, 47.9 and 21.4 respectively; and this in female: normal, borderline and abnormal were 23.3, 59.5 and 17.2% respectively. It was not statistically significant (P= 0.239)

This study findings revealed no significant association between emotional-behavioural problems of adolescents and different socio-demographic variables, including residential type (rural/urban), family structure (nuclear/joint), and educational status of parents, since P >0.05

4. 4. Discussion

The Thiruvananthapuram District, Kerala, study that looked at the frequency of emotional-behavioural disorders (EBP) among teenagers offers important insights into the mental health of this population. This study supports international research showing that 10 to 20 percent of teenagers suffer from mental health problems,[4] many of which go untreated. This underscores the critical need for efficient interventions and strategies to deal with these concerns.

In this study, according to the Strengths and Difficulties Questionnaire (SDQ11-17), 30.3% of the teenagers had emotional-behavioural issues and 10.4% were with substantial risk of clinically significant problems. A school based cross-sectional study conducted in Chandigarh, India showed the prevalence of EBP among adolescents as 30%. Type of family, educational status of father or mother did not show significant association[17]. These findings are similar to the present study.

This prevalence rate highlights the fact that a sizeable percentage of teenagers enrolled in school are at risk for mental health problems and is consistent with estimates from throughout the world. The results point to a serious public health issue, making it necessary to integrate mental health services within the educational system in order to identify and assist impacted pupils.

This study's finding about the difference between genders in emotional-behavioural issues is noteworthy. The information revealed notable distinctions between boys and girls in terms of behavioural issues, emotional issues, and pro-social behaviour. Compared to boys, girls were more likely to have emotional difficulties, with 40.5% of them falling into the abnormal or borderline categories, compared to 28.6% of boys. A study conducted in Kollam district of Kerala supports this, as it revealed that female adolescents have more emotional problems when compared to males. Means and SD of emotional problems were 2.61 and 1.9 in males and 3.54 and 2.48 in females[15]. A Maharashtra based study to find the gender difference in the internalized and externalized behaviour problems among school going children of 11-14 years showed similar findings as internalized behaviour problems (depression, anxiety and somatic complaints were more among girls and externalized behaviour (aggressive behaviour, attention problem and rule breaking behaviour) were higher among male children[18] and it supports this study findings. These results are in line with previous research, which frequently notes that female adolescents have greater rates of internalising issues that reflect emotional symptoms like anxiety and depression during adolescence.

In contrast, 71.6% of males and 28.4% of females, respectively, had difficulties in conduct, with males being more likely to have borderline or abnormal behaviour issues. This is consistent with a larger body of studies suggesting that externalising behaviours like aggressiveness and delinquency are more common among men. A descriptive study was conducted in Thiruvananthapuram district panchayat, Kerala to assess mental and behavioural problems among adolescents with behavioural and scholastic problems, who were referred by trained teachers, over a period of 5 years from 2007-2012. Most common mental disorder diagnosed among them was conduct disorder (36.4%).[10]

These behavioural patterns highlight the need for gender-sensitive methods in mental health interventions, acknowledging that distinct emotional and behavioural difficulties may present differently in men and women and necessitating customised assistance plans. When it came to pro-social behaviour, girls fared better than males; 89.7% of them displayed typical pro-social behaviour, compared to 72.4% in males. This implies that women typically participate in more constructive social

interactions, which is a benefit that might be utilised to create peer-support initiatives that lessen behavioural and emotional issues.

The research revealed no noteworthy association between emotional-behavioural issues and diverse socio-demographic elements, including residential type (rural/urban), family structure (nuclear/joint), and educational attainment of parents. This suggest that emotional and behavioural issues in teenagers are common in all sociodemographic groups and that, despite these differences, mental health services in schools are necessary. Nonetheless, this discovery also poses significant queries regarding the fundamental reasons for emotional-behavioural issues in teenagers.

Proposing the development of school-based mental health programmes is essential, given the high frequency of emotional-behavioural issues found in this study. In order to detect at-risk kids early, these programmes have to incorporate frequent mental health assessments with instruments such as the SDQ. In addition, schools have to facilitate access to counselling services and provide a welcoming atmosphere that empowers kids to ask for assistance without feeling ashamed. The gender-specific results point to the necessity of using distinct strategies when dealing with emotional-behavioural issues. Interventions for females could concentrate more on improving resilience, controlling anxiety and sadness, and creating spaces for emotional expression. Programmes that focus on behavioural regulation, anger management, and the development of healthy social behaviours may be more effective for boys.

It's also critical to train educators and other school personnel to spot behavioural and emotional issues in students and to know how to handle them. Teachers are essential in the early detection of mental health problems and can be the first to assist struggling children.

Comparison between Indian studies and south Indian studies:-

Numerous approaches, like as surveys, structured interviews, and standardised questionnaires like the Strengths and Difficulties Questionnaire (SDQ), are often used in Indian research on the mental health of adolescents. Adolescent sample sizes varied greatly, from a few hundred to several thousand, and sampling strategies include random, stratified, and cluster sampling.

The particular study from Thiruvananthapuram used a multistage cluster sampling strategy to target 804 teenagers between the ages of 13 and 16 using a descriptive survey approach. Structured questionnaires were utilised to collect socio-demographic data, and the self-reporting questionnaire (SDQ11-17) was employed to evaluate EBP. The chi-square test was used for data analysis in order to ascertain the relationship between sociodemographic characteristics and EBP.

According to national surveys, around 15–25% of teenagers have EBP, which is consistent with numbers from throughout the world. Differences in culture, socioeconomic status, and geography all contribute to variations. Anxiety, sadness, behavioural disorders, and challenges with peer relationships are often seen concerns.

Current study from Thiruvananthapuram, had 804 teenagers, and 30.3% of them had EBP. Following the exclusion of 30 cases involving various issues as indicated by instructors, 214 teenagers were left for a thorough examination. On the SDQ, 33.6% of these received an abnormal score and 66.4% of them had a borderline score. These results point to possible regional variances and show a greater frequency as compared to various national averages.

Larger-scale research conducted throughout India has produced contradictory findings about the relationship between sociodemographic characteristics and EBP. Urban-rural disparities are frequently emphasised, with urban teenagers perhaps displaying higher levels of stress as a result of scholastic demands. Parental education levels and family structure (nuclear vs. joint) also have variable degrees of effect on the mental health of teenagers. The Thiruvananthapuram study did not discover any correlation between EBP and the type of residence (rural/urban), the makeup of the family (nuclear/joint), or the educational attainment of the parents. Gender disparities were notable, though:

More prevalent in females (40.5% borderline and abnormal) than males (28.6%).

Higher in males (71.6% borderline and abnormal) than females (28.4%).

Higher in females (89.7% normal) compared to males (72.4%).

National studies consistently report gender differences in EBP. Generally, girls are more prone to emotional issues like anxiety and depression, while boys exhibit higher rates of conduct problems and hyperactivity. This aligns with global trends where gender roles and societal expectations play a crucial role.

The Thiruvananthapuram study supports these findings:

Females: Higher emotional problems but better pro-social behaviour.

Males: Higher conduct problems and lower pro-social behaviour.

These findings highlight the impact of gender-specific socialisation practices that are common in many Indian communities, where boys may be encouraged to be more independent and assertive, which can occasionally lead to behavioural problems, and girls may be encouraged to be more emotionally expressive and socially compliant.

The great cultural variety of India has a major influence on the forms and incidence of EBP in teenagers. Adolescent mental health is influenced variously by cultural customs, family dynamics, and educational expectations in the Northern, Southern, Eastern, and Western areas.Kerala may have distinct pressures than other areas because of its advancing socioeconomic indices and high literacy rate. Thiruvananthapuram's increased incidence of EBP may be related to sociocultural elements specific to Kerala, parental expectations that are high, and scholastic stress. Furthermore, Kerala's general greater educational attainment may be the reason for the study's lack of correlation with parental education, which reduces the variability of this component as a relevant one. These findings highlight the necessity of tailored mental health interventions and policies that address adolescent mental health concerns while taking into account local cultural, social, and educational contexts.

5. Conclusion

Thiruvananthapuram District, Kerala, has a high incidence of emotional-behavioural disorders (EBP) among its teenage population; 30.3% of the participants in the survey showed signs of having these difficulties. The frequency of EBP is consistent with global trends, highlighting how common these issues are among teenagers. The study's findings revealed no evidence of a significant relationship between EBP and sociodemographic variables including parents' educational attainment, family structure, or style of housing. However, there were clear gender differences: whereas males showed the reverse tendency, females showed greater rates of emotional difficulties and pro-social behaviour, but lower rates of conduct problems. In particular, 71.4% of men and 59.5% of women had normal emotional ratings, and 71.6% of women and 28.4% of men had normal behaviour scores. These results indicate that gender differences are important and should guide focused therapies, even while sociodemographic variables may not have a substantial impact on the prevalence of EBP.

Study also recommends creation of successful mental health policies and support systems in schools, that guarantee the male and female adolescents to receive adequate and nuanced treatment customised to their unique emotional and behavioural requirements.

CTRI- Registration details:

CTRI/2022/11/047016 (Registered on 03/11/2022)- Trial Registered Prospectively.

Funding- No funding has been received for this study.

Reference

[1] Geneva: World Health Organization; 2021. Adolescent mental health fact sheet

[2] Kessler RC, Angermeyer M, Anthony JC, De Graaf RO, Demyttenaere K, Gasquet I, De Girolamo G, Gluzman S, Gureje OY, Haro JM, Kawakami N. Lifetime prevalence and age-of-onset distributions of mental disorders in the World Health Organization's World Mental Health Survey Initiative. World psychiatry. 2007 Oct;6(3):168.

[3] Malhotra S, Chakrabarti S. Developments in Psychiatry in India. New Delhi: Springer India; 2015.

[4] Geneva: World Health Organization. Adolescent Mental Health. World Health Organization; 2018.

[5] 5. Majumder U, Gojendra S, Heramani N, Singh R. A study of psychiatric morbidity and substance use pattern among the adolescents attending department of psychiatry of a tertiary hospital in Northeastern India. Ann Indian Psychiatry 2019;3:19-22.

[6] Keyho K, Gujar NM, Ali A. Prevalence of mental health status in adolescent school children of Kohima district, Nagaland. Ann Indian Psychiatry 2019;3:39-42.

[7] Murthy RS. National mental health survey of India 2015–2016. Indian journal of psychiatry. 2017 Jan;59(1):21.

[8] Pattanayak RD, Mehta M. Childhood and adolescent depression. International handbook on mental health of children & adolescents: Culture, Policy & Practices. 2012 Nov 13:21-38.

[9] Nebhinani N. J. Indian Assoc. Child Adolesc. Ment. Health 2018; 14 (1): 4-9 Editorial Role of Connectedness in Youth Suicide Prevention. J. Indian Assoc. Child Adolesc. Ment. Health. 2018;14(1):4-9.

[10] Jayaprakash R, Sharija S. UNARV: A district model for adolescent school mental health programme in Kerala, India. Indian Journal of Social Psychiatry. 2017 Jul 1;33(3):233.

[11] Paul B, Usha VK. Prevalence and Predictors of Depression Among Adolescents. The Indian Journal of Pediatrics. 2020 Oct 3:1-4

[12] Jaisoorya TS, Beena KV, Beena M, Ellangovan K, George S, Thennarasu K, Srinath S. Prevalence and correlates of self-reported ADHD symptoms in children attending school in India. Journal of attention disorders. 2020 Oct;24(12):1711-5.

[13] Srinath S, Girimaji SC, Gururaj G, Seshadri S, Subbakrishna DK, Bhola P, Kumar N. Epidemiological study of child & adolescent psychiatric disorders in urban & rural areas of Bangalore, India. Indian Journal of Medical Research. 2005 Jul 1;122(1):67.

[14] Harikrishnan U, Sailo GL. Prevalence of Emotional and Behavioral Problems among School-Going Adolescents: A Cross-Sectional Study. Indian J Community Med. 2021 Apr-Jun;46(2):232-235. doi: 10.4103/ijcm.IJCM_451_20. Epub 2021 May 29. PMID: 34321732; PMCID: PMC8281858.

[15] Goodman R, Ford T, Simmons H, Gatward R, Meltzer H. Using the Strengths and Difficulties Questionnaire (SDQ) to screen for child psychiatric disorders in a community sample. The British journal of psychiatry. 2000 Dec;177(6):534-9.

[16] Owen JA, Mirza KA, Goodman R. Validating screening tool in Malayalam for mental disorders. The Indian Journal of Pediatrics. 2015 Jul 1;82(7):595-600.

[17] Pathak R, Sharma RC, Parvan UC, Gupta BP, Ojha RK, Goel N. Behavioural and emotional problems in school going adolescents. Australas Med J. 2011;4(1):15-21. doi: 10.4066/AMJ.2011.464. Epub 2011 Jan 31. PMID: 23289042; PMCID: PMC3448127.

[18] Shaikh EA, Shinde VR. Gender differences in internalized and externalized behavioral problems among school going children. Indian Journal of Health & Wellbeing. 2018 Apr 1;9(4):584-9.