



ASSESSMENT OF MENTAL HEALTH STATUS AMONG HIGH SCHOOL STUDENTS IN AN URBAN AREA – A CROSS-SECTIONAL STUDY

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ABSTRACT

Background: Health, as defined by the World Health Organization (WHO), encompasses physical, mental, and social well-being. Mental health is a critical component of overall health, influencing resilience, emotional stability, and decision-making. However, the lack of precise assessment tools makes early identification and intervention challenging. Adolescence (10–19 years) is a crucial developmental stage marked by hormonal, psychological, and social changes, with factors such as poverty, inequality, harsh parenting, bullying, and academic pressure contributing to anxiety, depression, and behavioral disorders. WHO data indicates that 12.5% of adolescents globally experience mental disorders, yet adolescent mental health remains understudied. **Objective:** To assess the mental health status among high school students of an urban area. **Methodology:** This cross-sectional study assessed the mental health of school children aged 11-17 years in Belagavi city from April 1, 2023, to March 31, 2024. A total of 900 students from four co-educational schools, selected from different city zones, participated. The sample size was determined based on a 27.7% prevalence of mental health problems. High school students from 8th to 10th standards were included, excluding those with known mental illnesses or on psychiatric medication. Ethical approval was obtained from the Institutional Ethical Committee, J.N. Medical College, KAHER, Belagavi. Data collection involved personal interviews using a structured questionnaire and the validated Strengths and Difficulties Questionnaire (SDQ), which assesses mental health. Students were categorized as normal, borderline, or abnormal based on SDQ scores, with total difficulty scores (0-40) indicating mental health risk. **Result:** The study found that 14.33% of students were at risk of developing mental health disorders, while an additional 22.78% fell into the borderline category. These findings highlight the need for early identification, school-based mental health interventions, and targeted strategies to promote adolescent well-being.

KEYWORDS : Mental health, SDQ, Adolescence

INTRODUCTION:

Health, as defined by WHO, encompasses physical, mental, and social well-being.¹ Mental health is crucial for resilience and overall well-being but lacks precise assessment tools, making early intervention difficult. Various factors, including poverty, inequality, and violence, influence mental health, especially during adolescence—a critical developmental stage. Harsh parenting, bullying, and social pressures contribute to anxiety, depression, and behavioural disorders.

Adolescence (10–19 years) is marked by hormonal, psychological, and social changes, impacting emotional stability and decision-making. WHO data shows 12.5% of adolescents globally experience mental disorders, with depression, anxiety, and conduct disorders being common.² Rising academic pressure, technology use, and stigma worsen these challenges. Hormonal fluctuations further affect mood, stress response, and social interactions.

This study assesses five key mental health domains—emotional symptoms, conduct problems, hyperactivity, peer relationship issues, and prosocial behaviour—to identify at-risk adolescents and enable timely interventions.³⁻⁵ Despite their importance, adolescent mental health studies remain limited, often focusing on adults. This study aims to bridge the gap by assessing risk factors and developing preventive strategies to enhance adolescent resilience and well-being.

OBJECTIVE:

1. To assess the mental health status among high school students of an urban area
2. To study the factors influencing the mental health

METHODOLOGY:

This cross-sectional study assessed the mental health of school children aged 11-17 years in Belagavi city from April 1, 2023, to March 31, 2024. Students from four co-educational schools, selected from different city zones, were included. The sample size was calculated using $n = 4pq/d^2$, based on a 27.7% prevalence of mental health problems, resulting in 900 students.

High school students from 8th to 10th standards were included, excluding those with known mental illnesses or on psychiatric medication. Schools were chosen based on official lists, and permission was obtained from school principals. Proportionate sampling was applied, and students were selected randomly. Ethical approval was granted by the Institutional Ethical Committee, J.N.

Medical College, KAHER, Belagavi.

Data collection involved personal interviews using a structured questionnaire and the validated Strengths and Difficulties Questionnaire (SDQ). The SDQ consists of 25 self-reported questions covering five domains: emotional symptoms, conduct problems, hyperactivity, peer relationship issues, and prosocial behaviour. Scoring classified students as normal, borderline, or abnormal based on predefined cutoffs, with total difficulty scores (0-40) indicating mental health risk. Prosocial behaviour was assessed separately as a positive indicator. Higher SDQ difficulty scores suggest an increased risk of mental health disorders.

RESULTS:

A total of 900 students from four co-educational schools in Belagavi participated in the study. Of these, 36.55% (n=329) were aged 12-14 years, and 63.45% (n=571) were aged 15-17 years. Males comprised 54.22% (n=488) and females 45.78% (n=412). The majority were Hindu (63.78%), followed by Muslims (28.67%), Christians (4.78%), Jains (2.44%), and others (0.33%). Family structure analysis showed 62.33% from nuclear families, 35.78% from joint families, and 1.89% from broken families. Nearly all fathers (99.66%) and mothers (98.44%) were literate. Regarding occupation, 99.21% of fathers were employed, while 73.96% of mothers were homemakers and 26.04% were employed. Socioeconomic status, based on the modified B.G. Prasad classification, placed 40.22% in class II, 36.11% in class I, 17.11% in class III, 5.78% in class IV, and 0.78% in class V.

Mental health status was evaluated using the Strengths and Difficulties Questionnaire (SDQ), which assesses emotional symptoms, conduct problems, hyperactivity, peer relationship issues, and prosocial behavior. About 62.89% (n=566) of students had normal SDQ scores (0-15), indicating good mental health, 22.78% (n=205) had borderline scores (16-19), suggesting a moderate risk of mental health difficulties and 14.33% (n=129) had abnormal scores (20-40), indicating a significant risk of developing mental health issues (Table 1). These findings suggest that nearly one in seven students (14.33%) exhibited significant mental health concerns, necessitating further evaluation and intervention.

Table 1: Total Difficulties Score

SDQ Total Difficulties score	Number	Percentage	Mean score $\pm$ SD
Normal (0 to 15)	566	62.89	10.45 $\pm$ 3.12

Border line (16 to 19)	205	22.78	17.27 ± 1.05
Abnormal (20 to 40)	129	14.33	22.36 ± 2.32
TOTAL	900	100	

When analysing associations, a higher prevalence of substantial risk of clinically significant mental health problems was observed among students aged 14 to 15 years (38.87%, $p = 0.17$), female participants (39.57%, $p = 0.16$), those studying in 10th standard (40.34%, $p = 0.22$), students from broken families (47.06%, $p = 0.58$), those whose fathers & mothers were illiterate or completed primary education/ high school (39.73%, $p = 0.31$) & (40.94%, $p = 0.06$) respectively. Furthermore, students whose fathers were unemployed (85.72%, $p = 0.07$) and whose mothers were working (42.31%, $p = 0.06$) also had substantial risk of clinically significant mental health problems, along with those from the lower socio-economic status (57.15%, $p = 0.37$) (Table 2).

Table 2. Association Between Sociodemographic Profile And Total Difficulties Score.

Variables	Total Difficulties Score		P Value
	Normal n (%)	Abnormal n (%)	
Age (in years)			0.17
12-13	61 (71.76)	24 (28.24)	
14-15	302 (61.13)	192 (38.87)	
16-17	203 (63.23)	118 (36.77)	
Sex			0.16
Male	317 (65.00)	171 (35.00)	
Female	249 (60.43)	163 (39.57)	
Standard			0.22
8 th	214 (66.04)	110 (33.96)	
9 th	136 (63.55)	78 (36.45)	
10 th	216 (59.66)	146 (40.34)	
Religion			0.72
Hindu	364 (63.41)	210 (36.59)	
Others	202 (63.95)	124 (36.05)	
Type of family			0.58
Nuclear	358 (63.81)	203 (36.19)	
Joint	199 (61.80)	123 (38.20)	
Broken	9 (52.94)	8 (47.06)	
Father's literacy status			0.31
Illiterate to high school	220 (60.27)	145 (39.73)	
PUC & Diploma	218 (65.86)	113 (34.14)	
Degree & Postgraduate	122 (62.88)	72 (37.12)	
Mother's Literacy status			0.06
Illiterate to high school	264 (59.06)	183 (40.94)	
PUC & Diploma	203 (67.21)	99 (32.79)	
Degree & Postgraduate	98 (65.77)	51 (34.23)	
Father's Occupation			0.07
Employed	559 (64.91)	324 (35.09)	
Unemployed	1 (14.28)	6 (85.72)	
Mother's occupation			0.06
Employed	135 (57.69)	99 (42.31)	
Homemaker	430 (64.75)	234 (35.25)	
Socio economic status			0.37
I	212 (65.23)	113 (34.77)	
II	225 (62.15)	137 (37.85)	
III	90 (58.44)	64 (41.56)	
IV	36 (69.23)	16 (30.77)	
V	3 (42.85)	4 (57.15)	

DISCUSSION:

Among the 900 school children in our study, 54.89% were aged 14 to 15 years, 34.67% were 16 to 17 years, and 9.44% were 12 to 13 years. The mean age was 14.91 ± 1.03 years, with a median of 15 years. A study from Jaipur reported a similar distribution, with 25.50% in the 11 to 12-year group, 29.40% in 13 to 14 years, and 45.20% in 15 to 17 years.⁷

Regarding sex distribution, 54.22% of our participants were male and 45.78% female. A study from Jaipur found an almost equal distribution, with 48.80% males and 51.20% females. In terms of religion, 63.78% followed Hinduism, 28.67% Islam, 4.78% Jainism, 2.44% Christianity, and 0.33% others.⁷ A study in Gujarat had a comparable distribution, with 64.20% Hindus, 33.60% Muslims, and 1.10% Christians.⁸ Family structure analysis revealed that 62.33% belonged to nuclear families, 35.78% to joint families, and 1.89% to broken families. A study in Mumbai found a similar nuclear family prevalence of 66.14%, with 33.86% in joint families.⁹

Parental literacy was high, with 99.66% of fathers and 98.44% of

mothers being literate. Among fathers, 31.58% had completed high school, while 40.54% of mothers had done the same. A study in Kashmir reported a lower literacy level, with only 14.00% of fathers and 5.30% of mothers having an undergraduate or postgraduate degree.¹⁰ Occupationally, 54.71% of fathers were self-employed, 17.98% worked in the government sector, 17.76% in private jobs, 5.28% as laborers, 3.48% as farmers, and 0.79% were unemployed. Among mothers, 73.96% were homemakers, and 26.04% were employed. A study in Biratnagar found similar trends, with 72.00% of mothers unemployed and 93.00% of fathers employed.⁴

Socioeconomic classification based on the modified B.G. Prasad scale showed that 40.22% were in Class II, 36.11% in Class I, 17.11% in Class III, 5.78% in Class IV, and 0.78% in Class V. A study in Kolkata found a similar distribution, with 36.95% in the high socioeconomic group, 45.65% in the medium, and 17.40% in the low category.¹¹

Mental health screening revealed that 62.89% had normal difficulty scores (mean $\pm$ SD: 10.45 ± 3.12), 22.78% had borderline scores (mean $\pm$ SD: 17.27 ± 1.05), and 14.33% had abnormal scores (mean $\pm$ SD: 22.36 ± 2.32). A study in Nagaland reported a similar prevalence, with 54.0% normal, 28.8% borderline, and 17.2% abnormal scores.¹²

Substantial risk of clinically significant mental health problems was higher among students aged 14 to 15 years (38.87%), females (39.57%), those in the 10th standard (40.34%), students from broken families (47.06%), and those with parents having lower education levels. Additionally, children of unemployed fathers (85.72%) and working mothers (42.31%) showed a higher prevalence. A study in Jaipur reported a significant association between low maternal education and higher abnormal scores ($p < 0.001$).⁷

These findings emphasize the influence of socio-demographic factors on mental health and highlight regional differences in family structure, education, occupation, and socioeconomic status.

This study used the standardized Strengths and Difficulties Questionnaire (SDQ) for reliable mental health assessment and had an adequate sample size, though its cross-sectional design limits causal inferences and self-reported data may introduce bias. Schools should conduct regular mental health screenings, provide early interventions and raise awareness through teacher training and student support programs. Strengthening peer support, parental involvement. Gender-sensitive strategies, stress management training and collaboration with mental health professionals are essential.

CONCLUSION:

The study findings highlight that a significant proportion of high school students (14.33%) are at risk of developing mental health issues, with additional 22.78% being in the borderline category. Given the growing burden of adolescent mental health challenges, these results emphasize the need for early identification, intervention strategies, and mental health support programs in schools. Creating a supportive environment, providing counseling services and promoting awareness among parents and teachers can help mitigate risk factors and enhance adolescent mental well-being.

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