



Original Research Article

Assessment of mental health status among adolescent school children in Karnataka

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ABSTRACT

Background: India has the largest population of adolescents in the world (1/5th of world's adolescents) with 4-33% prevalence of mental health disorders. The present study was conducted to assess the mental health status of adolescent school going children in Karnataka.

Materials and Methods: A cross sectional study was conducted among 375 adolescent school going children aged 10-15 years in a private school in Karnataka (June-August 2019). Students were interviewed by pretested questionnaire after obtaining informed assent from the school administrators and primary care givers. The questionnaire included 4 different domains viz., Educational, Physical health, Emotional and Social factors. Scores ranged between 0 – 41 and interpreted as higher the scores better the mental health status of student. Data was analyzed using SPSS software version 24.

Results: Out of 375 participants, 48.8% were girls and 51.2% were boys with mean age of 12.7 yrs. Overall 12.5% students had abnormal mental health status, which was more among girls (15.4%) compared to boys (9.9%) and it was statistically significant ($p < 0.021$). Of 4 domains, physical health factor was most affected (17.3%), followed by educational factor (15%). Gender-wise, educational domain was most affected among boys (17.7%, $p = 0.034$) and physical health domain among girls (20.2%, $p < 0.001$), which was statistically significant.

Conclusions: This study shows that abnormal mental health status is prevalent among adolescents and more among girls. Of the 4 domains, Physical health was most affected. This problem needs addressal with well defined school-based intervention programs.

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1. Introduction

Adolescence a transition from childhood to adulthood, is the period of rapid physical, sexual, and psychological growth. Often addressed as teens, they are young people aged between the age of 10 and 19 years. Adolescents in India constitute a quarter of the country's population which is approximately 243 million, which in turn constitutes 20% of the world's 1.2 billion adolescents.¹ About half of all lifetime mental disorders begin before the age of 14 years, although first detected later in life and account for 16% of global burden of disease and injury among adolescents^{2,3} A meta-analysis of 41 studies conducted

between 1985 and 2012 in 27 countries estimated a global prevalence of mental disorders in children and adolescents of 13%.⁴ The prevalence of childhood psychiatric disorders in India have been found to be 7% in the community and 23% in schools.^{5,6} Nevertheless, most cases go undetected and untreated. Poor mental health is strongly related to other health and development concerns in young people - lower educational achievements, substance abuse, violence, poor reproductive and sexual health. According to present estimates by WHO, mental illnesses are the leading causes of DALYs worldwide, accounting for 37% of healthy years lost from non-communicable diseases. Worldwide, first main cause of YLD (Years Lived with Disability) for 10- to 24-year-olds was neuropsychiatric disorders (45%).⁷ Hence

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the present study was conducted with an intension to –

1. To assess the mental health status of adolescents in Karnataka.
2. To determine the prevalence of abnormal mental health status among adolescents in Karnataka,

-such that further interventions can be done in terms of detection/diagnosis, management, prevention and promotion of better mental health.

2. Materials and Methods

A cross-sectional study was conducted in a private co-educational institution in Chikkaballapura district, Karnataka, between March to September 2019 on 375 adolescent school children from class 5 to 9, aged between 10-15 years. Students were interviewed using a pretested, validated, semi structured questionnaire after obtaining informed assent from the school administrators and the primary care givers. Institutional ethical clearance was obtained.

The questionnaire consisted of socio-demographic details. Assessment of mental health status was done using a questionnaire which consisted of 41 questions, covering 4 different domains - Educational factors included questions on: scholastic performances, extracurricular activities; Physical health factors included questions on: physical appearance, sight or earing problems, appetite; Emotional factors included questions on: aggressive behaviour, substance abuse, mood swings, often feeling lonely, disinterested; Social factors included questions on: social interactions, conflicts with friends, family or neighbours. Students were asked to respond to the questions based on their experience in the last one month. Scores of negatively framed questions were reversed and counted. Overall, the scores ranged between 0 to 41. Further the scores were regrouped as normal (> 30), borderline (15-30) and abnormal (<15), overall and also under each domain. Results were interpreted as: Higher the scores better the mental health status of the student.

2.1. Statistical analysis

Data was analyzed using SPSS software version 24. Association between two proportions was accepted as significant when p value was less than 0.05, using chi square test.

3. Results

Out of 375 participants, 183 (48.8%) were girls and 192(51.2%) were boys with majority in the age group of 12-14 years. Overall, mean age of the study subjects was 12.7 yrs. Majority were Hindu by religion. Around 54% of the girls' parents were well-educated (degree holders or

post graduate and above) whereas around 34% of the boys' parents were well-educated (degree holders or post graduate and above).

Overall, 12.5% of adolescents had abnormal mental health status, which was more among girls (15.4%) as compared to boys (9.9%). Around 70% of the adolescents had Borderline mental health status, which was more among boys (76%) as compared to girls (62.8%), ($p < 0.01$) (Table 1). Overall, physical health domain was most affected (17.3%), followed by educational (15%) and emotional factors (13.6%) (Table 2). Educational factors were most affected among boys (17.7%-abnormal) as compared to girls (12%-abnormal) and this difference was found to be statistically significant. Similarly, physical health factors were most affected among girls (20.2%- abnormal) as compared to boys (14.6%- abnormal) $p < 0.001$ (Table 3). Both boys and girls were equally affected in emotional factors. Social factors were least affected among both the genders.

4. Discussion

Our study revealed that 12.5% students had abnormal mental health status, which is similar to a study conducted by Harikrishnan et al.⁸ and Nair et al.,⁹ wherein one tenth (10%) and 15% of the adolescents had some mental health issues, respectively. Furthermore, abnormal mental health status was more among adolescent girls i.e.,15.4%, which is similar to a study conducted by Smitha et al., wherein prevalence of mental health disorders among adolescent girls was found to be 15.5%. This could be because, boys may have more difficulties in acknowledging their mental health problems and tend to mask their mental health problems by acting out their difficulties in the form of aggression, resulting in more externalising disorders that are problematic for others such as antisocial personality disorders and substance abuse or dependence.³ This also affects their scholastic performance, explaining why educational factors were most affected among boys (17.7%-abnormal) as compared to girls (12%-abnormal). Another study by Nair et al.⁹ also states that conduct disorders, peer problems and hyperactivity were more predominant in boys.

The lower self-esteem of adolescent girls when compared to boys in the same age group, and their anxiety over their body-image is known to result in a higher prevalence of internalizing disorders such as depression, anxiety and eating disorders. This explains why physical health factors were most affected among girls (20.2%-abnormal) as compared to boys (14.6%-abnormal).

Emotional factors were equally affected among both the genders, although the difference is not statistically significant. This is in contrast to a study by Nair et al.⁹ which states that emotional problems were more common in girls. Girls are expected to be more emotionally sensitive,¹⁰

Table 1: Gender-wise distribution of mental health status among adolescents

Mental health status	Girls (N=183) n (%)	Boys (N=192) n (%)	Total n (%)	p value
Normal	40 (21.8)	27 (14.1)	67 (17.8)	0.021
Borderline	115 (62.8)	146 (76)	261 (69.6)	
Abnormal	28 (15.4)	19 (9.9)	47 (12.5)	
Total	183	192	375	

*Score distribution: Normal > 30, Borderline 15-30, Abnormal < 15

Table 2: Domain-wise distribution of mental health status among adolescents

Domain	Frequency n (%), where N= 375
1. Educational factors:	
Normal	115 (30.6)
Borderline	204 (54.4)
Abnormal	56 (15)
2. Physical health factors:	
Normal	82 (21.8)
Borderline	228 (60.8)
Abnormal	65 (17.3)
3. Emotional health factors:	
Normal	84 (22.4)
Borderline	240 (64)
Abnormal	51 (13.6)
4. Social factors:	
Normal	107 (28.5)
Borderline	248 (66)
Abnormal	20 (5.3)

Table 3: Gender-wise distribution of mental health status under different domains

Domain	Girls (N=183) n (%)	Boys (N=192) n (%)	p value
1. Educational factors:			0.034
Normal	67 (36.6)	48 (25)	
Borderline	94 (51.4)	110 (57.3)	
Abnormal	22 (12)	34 (17.7)	
2. Physical health factors:			0.0018
Normal	26 (14.2)	56 (29.2)	
Borderline	120 (65.5)	108 (56.2)	
Abnormal	37 (20.2)	28 (14.6)	
3. Emotional factors:			0.746
Normal	38 (20.8)	46 (24)	
Borderline	119 (65)	121(63)	
Abnormal	26 (14.2)	25 (13)	
4. Social factors:			0.96
Normal	51 (27.9)	56 (29.2)	
Borderline	122 (66.7)	126 (65.6)	
Abnormal	10 (5.5)	10 (5.2)	

Chi square test

suffer more from stressors which involve significant others such as the death of friends or relatives,¹¹ experience more restricted gender roles and body dissatisfaction^{12,13} ruminate more as a coping strategy, experience more family violence, abuse and school performance pressure.

Social factors like social interactions, family disputes were less compared to other studies. This could be because of the better socio-economic status of the families and better curriculum and exposure at the school campus (ICSE board affiliated).

5. Conclusion

Considering the prevalence of mental health problems among adolescents, it is evident that a policy for improving adolescent mental health is the need of the hour. Biological gender differences and the different societal expectations towards boys and girls which are related to mental health problems call for effective mental health promotion strategies that are adapted to the needs of boys and girls

Integration of childhood and adolescent mental health in primary health care is necessary. Adolescent Reproductive and Sexual Health (ARSH) clinics should also focus more on mental health conditions.

Also the problem needs to be addressed with well-defined school-based intervention programs life skill-based education (LSBE) in the regular curriculum, counseling services, mentorship program and health education along with Teachers' orientation programs.

6. Source of Funding

None.

7. Conflict of Interest

The authors declare that there is no conflict of interest.

References

1. Adolescence - an Age of opportunity. Available from: http://www.unicef.org/india/media_6785.htm.
2. Kessler RC, Berglund P, Demler O, Jin R, Merikangas KR, Walters EE. Lifetime prevalence distributions of DSM-IV disorders in the National Comorbidity Study Replication. *Arch Gen Psychiatry*. 2005;62:593–602.
3. Patel V, Flisher AJ, Hetrick S, McGorry P. Mental health of young people: a global public-health challenge. *Lancet*. 2007;369(9569):1302–13. doi:10.1016/s0140-6736(07)60368-7.

4. Polanczyk GV, Salum GA, Sugaya LS, Caye A, Rohde LA. Annual Research Review: A meta-analysis of the worldwide prevalence of mental disorders in children and adolescents. *J Child Psychol Psychiatry*. 2015;56(3):345–65. doi:10.1111/jcpp.12381.
5. Malhotra S, Patra BN. Prevalence of child and adolescent psychiatric disorders in India: a systematic review and meta-analysis. *Child Adolesc Psychiatry Ment Health*. 2014;8(1):22. doi:10.1186/1753-2000-8-22.
6. Murthy RS. National mental health survey of India 2015-2016. *Indian J Psychiatry*. 2017;59:21–6.
7. Gore FM, Bloem P, Patton GC, Ferguson J, Joseph V, Coffey C, et al. Global burden of disease in young people aged 10–24 years: a systematic analysis. *Lancet*. 2011;377(9783):2093–2102. doi:10.1016/s0140-6736(11)60512-6.
8. Harikrishnan U, Arif A, Sobhana H. Assessment of mental health status among school going adolescents in North East India: A cross sectional school based survey. *Asian J Psychiatry*. 2017;30:114–7. doi:10.1016/j.ajp.2017.08.021.
9. Nair S, Ganjiwale J, Kharod N, Varma J, Nimbalkar SM. Epidemiological survey of mental health in adolescent school children of Gujarat, India. *BMJ Paediatr Open*. 2017;1(1):e000139. doi:10.1136/bmjpo-2017-000139.
10. Rosenfield S, Mouzon D. Handbook of the sociology of mental health. Aneshensel CS, Phelan JC, Bierman A, editors. Netherlands: Springer; 2013. p. 277–96.
11. Matud MP. Gender differences in stress and coping styles. *Personal Individual Differ*. 2004;37(7):1401–15. doi:10.1016/j.paid.2004.01.010.
12. Haugen T, Johansen BT, Ommundsen Y. The role of gender in the relationship between physical activity, appearance evaluation and psychological distress. *Child Adolesc Ment Health*. 2014;19:24–30.
13. Rodríguez-Cano T, Beato-Fernández L, Llario A. Body dissatisfaction as a predictor of self-reported suicide attempts in adolescents: A Spanish community prospective study. *J Adolesc Health*. 2006;38(6):684–8. doi:10.1016/j.jadohealth.2005.08.003.

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