Original article

Emotional and behavioral screening of in-school adolescents in Udupi taluk, Southern India

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Abstract

Background & Objectives: Adolescence is a crucial phase in life. This study explores the emotional and behavioral problems in adolescents and factors associated with them.

Methods: A total of 659 adolescents, comprising 273 females and 386 males in the age group of 14 to16 years, participated in the study. Two-stage stratified clustered sampling was used to screen the population. Strengths & Difficulty Questionnaire [SDQ] was used to assess adolescents' behavior and mental problems.

Results: Emotional problems predominated among female adolescents. Total difficulty scores [36.3%] were higher among male adolescents [38.1%] versus female participants [33.7%]. Apart from the total difficulty score and hyperactivity subdomains, all the other subdomains were significantly associated with the gender of the participant. On assessing for the association between school strata and subdomains of SDQ, it was observed that conduct problems, hyperactivity, peer problems, and total difficulty scores were significantly associated at p<0.001.

Conclusion: Our study findings indicate that a higher proportion of the in-school adolescents have scored in the abnormal range. It has also been observed that male adolescents had a higher rate of

scoring in the abnormal range across all the subdomains except the emotional and hyperactivity subdomains. Provisions for retaining school counselors who are skilled and have the demonstrated ability to liaison with mental health professionals are the need of the hour.

Introduction

Adolescence represents a critical transition in life, characterized by rapid growth and puberty. As adolescents change physically, psychosocially, and emotionally, literature also cites a risk for developing mental health conditions. Per the WHO, mental health includes 'subjective well-being, perceived self-efficacy, autonomy, competence, intergenerational dependence & self-actualization of one's intellectual and emotional potential among others' [1, 2]. Adolescent well-being is contingent upon promoting mental wellness and exposing them to joyful experiences that may critically impact their development while paving the way for well-adjusted teenage years and living productive lives during adulthood.

Children affected by borderline intellectual functioning may present with various learning, speech, visual, and hearing difficulties. According to the WHO, the average age of onset of various mental disorders, including mood and anxiety disorders, was 14 years in both genders [3]. The Indian National Mental Health Survey 2016 report reads that prevalence of mental disorders among the adolescent population in India is 7.3% and nearly equal in both genders. The report also indicates that around 9.8 million young Indians aged 13 to 17 years need active interventions [4]. Bhola and Kapur report that among 23 school-based studies that explored mental health morbidities in Indian adolescents, the morbidities ranged between 3.23% to 36.50% [5], while other studies conducted in southern India estimated about 8.7% to 31.2% of adolescents suffer from mental disorders [6,

7]. Differences in findings in studies in the Indian setting are due to differences in study design, sampling strategies, etc. Compounded by the attendant stigma and discrimination that people with mental illnesses face, reduced knowledge on mental health disorders can preclude early identification and seeking health care [8-12]. The urgency of exploring is augmented because research indicates that the first episodes of mental illnesses are known to emerge during adolescence and early adulthood.

Recent studies have also tried to identify relation between the type of schools and incidence of mental disorders. The Indian schooling system can be broadly classified into government, aided, and private schools [13]. While the aided schools receive private funds to run schools, their management is overseen by government, compared to the public/government schools that are purely run and managed under the authority of state or national governments. Private schools, on the other hand, are entirely privately funded [13]. While some studies have noted and identified the association of schools with mental health, there is not much literature around it.

Although there is a growing interest, paucity of research on mental health among adolescents in the Indian context persists. Empowering the vulnerable young to identify and seek early help for possible mental health-related problems can reduce long-term morbidity and attendant effects. In this study, we attempted to assess behavioral problems as well as the association between the type of schooling on behaviors among adolescents in the age group 14 to16 years through the school setting in Udupi Taluk, southern India.

Methods

Ethical clearance for the study was obtained from the Institutional Ethics Committee, Kasturba Medical College, a tertiary care hospital [IEC 31/2015]. The primary units of sampling were schools at the community level. Sampling for the study was performed through Udupi taluk's rural

and urban schools among students in the age group of 14 to16 years. Primary data collection spanned between February to July 2015.

Study Design

A cross-sectional study design with two-stage stratified cluster sampling was adopted. Firstly, the list of all existing secondary schools in Udupi taluk was obtained from the Block Education Officer, Udupi. The list also contained the number of students in the target age group. In all, 75 secondary schools were identified and stratified into 23 Government, 27 aided, and 25 private schools. Only girls' or residential schools were excluded. Since this study was focused on understanding mental morbidities across defined age groups, uniform distribution of schools was achieved by stratified sampling

With the approximate participation of 45 students from each school, 14 schools were selected through simple random selection using the lottery method to achieve the sample size. These 14 schools included four Government, five Aided, and five private schools. The sample size [n] was calculated using the following formula:

$$N = \frac{Z^2_{1-a/2} \times P\,(1-P) \times DE}{D^2}$$

Wherein, N= sample size [total number of students to considered in the study] = 549.72.

$Z^2_{1-a/2}$ value at a specified confidence interval [95% CI] = 1.96

P = the proportion of the event in the population [event being the number of middle-aged adolescents with any form of mental disorder] from = 23.33%

D = absolute precision [acceptable margin of error in estimating the true population proportion] = 5%
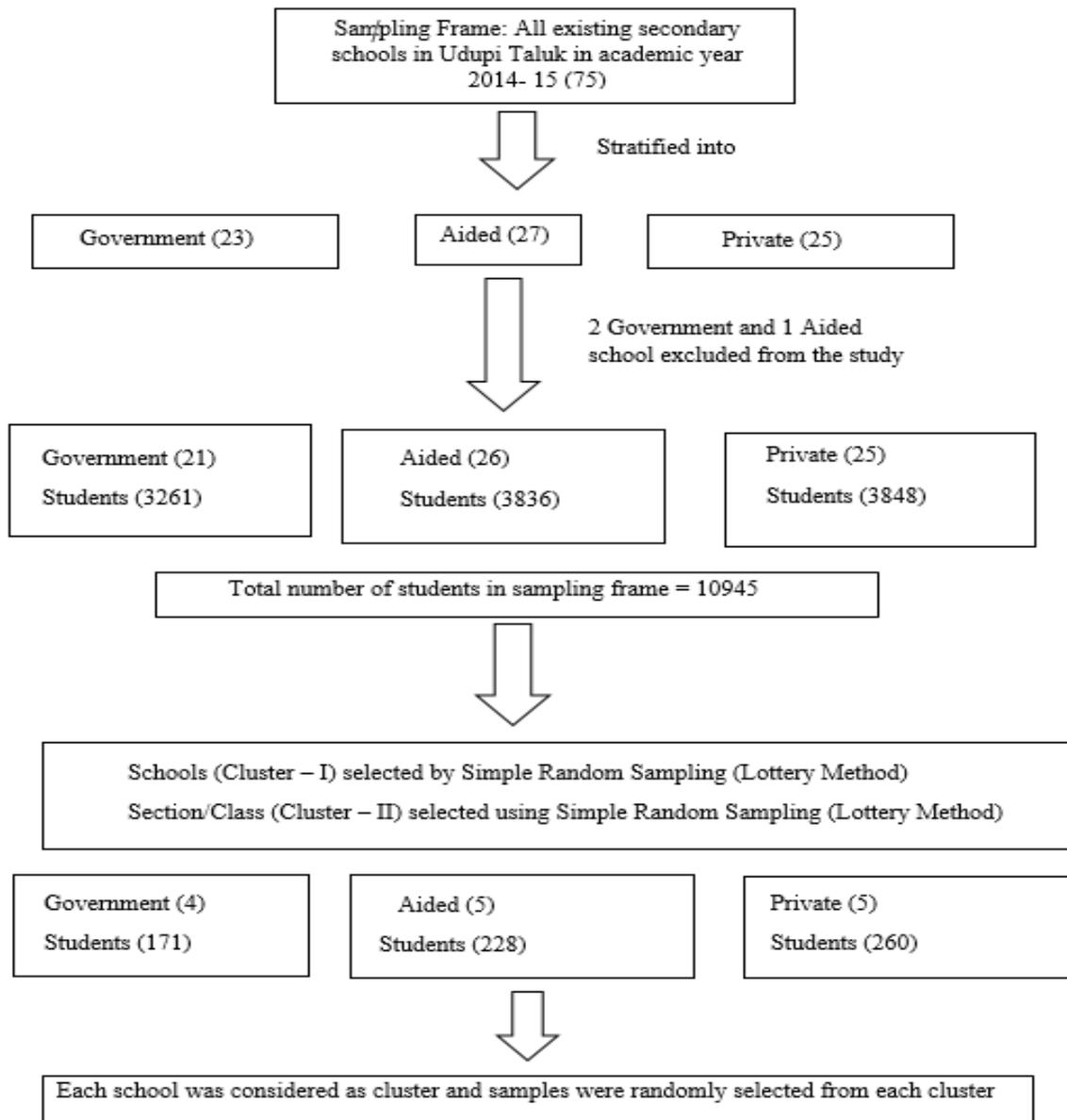
DE = Design Effect = 2 for stratified cluster sampling and

NRR = non-response rate = 10%

Finally, the sample size, as denoted by N' = 610.80 ~ 611

Required total number of participants were 611.

Figure-1: Two Stage Stratified Cluster Sampling Technique for the selection of subjects.

Instruments

Data instruments included a socio-demographic proforma and the self-report form of the Strengths and Difficulties Questionnaire [SDQ] [12] for 11- to 17-year-old participants. The forms were filled by the students using pen and paper. The self-administered SDQ for adolescents comprises 25 questions divided under the following five subscales: Emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems, and prosocial behavior.

Each category was summed to obtain the total difficulties score, except the prosocial score, as described by the authors. Based on each subscale's reference scores, the responses under each subscale were categorized as 'Abnormal,' 'Borderline', and 'Normal' scores.

Table-1: Categorizing SDQ score for self-reporting questionnaire

Subdomains	Abnormal	Borderline	Normal
Emotional symptoms	7-10	6	0-5
Conduct problems	5-10	4	0-3
Hyperactivity	7-10	6	0-5
Peer problems	6-10	4-5	0-3
Prosocial behaviour	0-4	5	6-10
Total difficulty	20-40	16-19	0-15

Measurements

The primary researcher recruited the participants following permission from the schools according to the sampling methodology [Figure-1].

All adolescents aged 14 to 16 years who satisfied the inclusion criteria were included in the study following parental consent and adolescent assent. In total, 171 adolescents from four government schools, 260 adolescents from five aided schools, and 228 adolescents from five private schools participated. In all, 659 adolescents provided data through self-administered questionnaires during

school hours at a time convenient to them. The data was collected through physical copy of questionnaire provided to the participants.

Data Analysis

The data was analyzed using statistical software SPSS version 16. Descriptive analysis was used to analyze the distribution of respondents across age, gender, and strata [type of school]. Bivariate analysis with Chi-square tests were used to assess for associations between independent and the dependent outcome variables. A p-value of 0.05 was set as significant.

Results

A total of 659 adolescents with 386 [58.6%] male and 273 [41.4%] female students participated. The mean age of respondents among female participants was 14.43 years [S.D. ± 0.59], while for male participants, it was 14.60 years [S.D. ±0.66 years]. A higher proportion of adolescents belonged to aided schools [39.5%], while 34.6% were in private schools and 25.9% in government schools.

Table-2: Demographic characteristics of participants [n=659]

Variable	Frequency [n %]
Age in years	
14	361 [54.78]
15	246 [37.33]
16	52 [7.89]
Gender	
Male	386 [58.6]
Female	273 [41.4]
School Strata	
Government	171 [25.9]
Aided	228 [34.6]
Private	260 [39.5]

The adolescents were screened using the SDQ tool, and it was found that 79 [12%] scored abnormal scores under the emotional symptoms, 237 [36%] scored abnormal scores under the conduct disorder scores, 144 [21.9%] scored abnormal scores under hyperactivity, 216 [32.8%] scored abnormal scores on the peer problem subdomain. Prosocial behaviours are the practice of helping people without expecting rewards, and under this subdomain, abnormal scores were the least at 3.8%. The total difficulty score is calculated as the sum of all scores except prosocial behaviour. The study revealed that 36% of the participating adolescents had an abnormal total difficulty score, while 30.2% scored in the borderline category.

Table-3: Scores obtained by the participants across SDQ subdomains

Subdomains	Abnormal [n %]	Borderline [n %]	Normal [n %]
Emotional symptoms	79 [12]	65 [9.9]	515 [78.1]
Conduct problems	237 [36.0]	117 [17.8]	305 [46.3]
Hyperactivity	144 [21.9]	160 [24.3]	355 [53.9]
Peer problems	216 [32.8]	165 [25]	278 [42.2]
Prosocial behaviour	25 [3.8]	30 [4.6]	604 [91.7]
Total difficulty	239 [36.3]	199 [30.2]	221 [33.5]

Distribution of SDQ scores across gender

Across all subdomains, all participants essentially scored in the normal category. On assessing for the association between the gender of the adolescent and the SDQ subdomains, it was found that male adolescents exhibited a higher percentage of abnormal scores. However, in the domain emotional symptoms, a higher percentage of female adolescents scored abnormal scores [14.3%] than males [10.4%]; however, this finding was not statistically significant. Conduct problems were again found to be higher among male adolescents [41.7%] compared to female adolescents at 27.8%, which was a statistically significant finding at p<0.001. Abnormal scores on the hyperactivity domain showed almost equal numbers of male [21.2%] and female [22.7%] adolescents having abnormal scores under this domain.

Peer problems, reflecting insecurity and dissatisfaction with friends, were more pronounced in males [40.2%]. Across the prosocial behaviours' domain, male adolescents scored higher [5.4%], which was statistically significant at p<0.001. Total difficulty scores [36.3%] were higher among male adolescents [38.1%] versus female participants [33.7%], which was significant at p=0.043.

Table-4: Association of gender of the adolescent with SDQ subdomains

Subdomains	Gender	Abnormal [n %]	Borderline [n %]	Normal [n %]	p-value
Total Difficulty	Female	92 [33.7]	75 [27.5]	106 [38.8]	0.043*
	Male	147 [38.1]	124 [32.1]	115 [29.8]	
	Total	239 [36.3]	199 [30.2]	221 [33.5]	
Emotional Symptoms	Female	39 [14.3]	31 [11.4]	203 [74.4]	0.138
	Male	40 [10.4]	34 [8.8]	312 [80.8]	
	Total	79 [12.0]	65 [9.9]	515 [78.1]	
Conduct Problem	Female	76 [27.8]	45 [16.5]	152 [55.7]	0.001**
	Male	161[41.7]	72 [18.7]	153 [39.6]	
	Total	237 [36.0]	117 [17.8]	305 [46.3]	
Hyperactivity	Female	62 [22.7]	69 [25.3]	142 [52.0]	0.724
	Male	82 [21.2]	91 [23.6]	213 [55.2]	
	Total	144 [21.9]	160 [24.3]	355 [53.9]	
Peer Problem	Female	61 [22.3]	66 [24.2]	146 [53.5]	0.001**
	Male	155 [40.2]	99 [25.6]	132 [34.2]	
	Total	216 [32.8]	165 [25]	278 [42.2]	
Prosocial Behavior	Female	4 [1.5]	5 [1.8]	264 [96.7]	0.001**
	Male	21 [5.4]	25 [6.5]	340 [88.1]	
	Total	25 [3.8]	30 [4.6]	604 [91.7]	

*p<0.05, **p<0.001

Distribution of SDQ scores across school strata

On assessing the association between school strata and subdomains of SDQ, it was observed that conduct problems, hyperactivity, peer problems, and total difficulty scores were significantly associated at p=0.001 while the other subdomains were not. Interestingly, our findings showed that across all except under the prosocial behavior subdomain score, participants from the aided schools had a higher percentage scoring in the abnormal score range with 14.9% scoring under the

emotional symptoms score, 49.1% under the conduct problem score [p<0.001], 31.1% under the hyperactivity score [p<0.001], 41.2% under the peer problem score [p<0.001] and 52.6% under the total difficulty score [p<0.001].

Except for the emotional symptoms score, all other findings were significantly associated with the school strata. The abnormal scores under the prosocial behavior subdomain were low overall compared to the other subdomains. It was of concern that more than half of all participants from aided schools had an abnormal total difficulty score.

Table 5: Association of school strata adolescents with SDQ subdomains

Subdomains	Strata	Abnormal [n %]	Borderline [n %]	Normal [n %]	p-value
Total Difficulty	Government	49 [28.7]	59 [34.5]	63 [36.8]	0.001**
	Aided	120 [52.6]	67 [29.4]	41 [18.0]	
	Private	70 [26.9]	73 [28.1]	117 [45.0]	
	Total	239 [36.3]	199 [30.2]	221 [33.5]	
Emotional Symptoms	Government	17 [9.9]	13 [7.6]	141 [82.5]	0.237
	Aided	34 [14.9]	27 [11.8]	167 [73.2]	
	Private	28 [10.8]	25 [9.6]	207 [79.6]	
	Total	78[12.0]	65 [9.9]	515 [78.1]	
Conduct Problem	Government	54 [31.6]	22 [12.9]	95 [55.6]	0.001**
	Aided	112 [49.1]	45 [19.7]	71 [31.1]	
	Private	71 [27.3]	50 [19.2]	139 [53.5]	
	Total	237 [36.0]	117 [17.8]	305 [46.3]	
Hyperactivity	Government	35 [20.5]	44 [25.7]	38 [14.6]	0.001**
	Aided	71 [31.1]	54 [23.7]	62 [23.8]	
	Private	38 [14.6]	62 [23.8]	160 [61.5]	
	Total	144 [21.9]	160 [24.3]	355 [53.9]	
Peer Problem	Government	60 [35.1]	36 [12.1]	75 [43.9]	0.001**
	Aided	92 [41.2]	65 [28.5]	69 [30.3]	
	Private	62 [23.8]	64 [24.6]	134 [51.5]	
	Total	216 [32.8]	165 [25.0]	278 [42.2]	
Prosocial Behavior	Government	2 [1.2]	4 [2.3]	165 [96.5]	0.081
	Aided	10 [4.4]	10 [4.4]	208 [91.2]	
	Private	13 [5.0]	16 [6.2]	134 [51.5]	
	Total	25 [3.8]	30 [4.6]	507 [88.8]	

*p<0.05, **p<0.001

Discussion

Our study findings provide insight into behavioral problems among in-school adolescents in the middle adolescent age group of 14 to 16 years with relatively large sample size. Slightly more than a third of our participants, 36.3%, scored in the abnormal total scores range. The range of mental and behavioral problems among Indian adolescents has been documented ranging from 6.33% to 43.1% [9, 10]. Our study findings fall within this recorded range as in other settings within the Indian context but higher than that reported by Puwar T et al, in their study at Sabarkantha, Gujarat, where they found that 14% of their participants aged between 11-19 years were at risk for mental health problems [11].

About 12% of our participants reported emotional problems with a preponderance among female participants as compared to male participants. Puwar T et al, reported that 18% of their participants were identified as having abnormal scores on emotional problems which was higher than among our participants. In the Indian context, anxiety and depressive symptoms have ranged between 0.1 to 18.5% [11, 15, 16], with higher among female versus male adolescents [12]. A study conducted by Jha et al. in Bihar among middle adolescents indicated that a higher number of female participants in their study had depressive symptoms in comparison with their male counterparts [17]. These findings have been replicated in a study conducted in rural North India by Madasu S. et al. [18]. Harikrishnan et al. observed that female adolescents in Tezpur, Assam, also exhibited a higher risk of developing emotional disorders [19]. These findings are comparable with studies indicating higher emotional intensity for both positive and negative emotions among female participants.

An essential aspect of conduct disorder is a "repetitive and persistent pattern of behavior in which the basic rights of others or age-appropriate societal norms are violated [20]". The disruption of

behavior causes significant disability in various spheres of functioning. In the present study, nearly 36% of adolescents had an abnormal score in the conduct disorders subdomain, while 17.8% fell under the borderline category. Puwar T et al., reported 16% conduct disorders among their participants [11]. As opposed to the previous subdomain discussed, it was found that nearly 42% of males scored as having an abnormal conduct problem score in comparison with female participants who were much lower at 27.8%. One of the primary reasons is that adolescent males engage and exhibit externalizing behavior like verbal and physical aggression, bullying and defiance as compared to females in the same age group who are documented as having more significant internalizing behavioral problems [19].

Keeping in line with the observation by Harikrishnan et al. [19], conduct problems, hyperactivity disorders, peer problems, and total difficulties were all reported at a higher degree among male adolescents. Studies in the international setting have primarily acknowledged higher rates of conduct disorders among male adolescents than female adolescents [20-22]. They have shown an association with persistent behaviors leading to delinquency and antisocial activity. Similar results were observed in relation to adolescent conduct disorders in a study conducted in Ranchi, India, by Sarkhel S. et al. [23]. Peer problems, evaluated in terms of security and satisfaction of being with friends, were reported at 32.8%, scoring in the abnormal score range, while 25% scored in the borderline category. The underreported but related problem of bullying may be an aspect that contributes to this problem [23]. Nair et al, argue that peer problems were prevalent in the Indian context and had an adverse effect on more than one in four adolescents [24]. Puwar T et al, found that 38% of male and 33% of female participants reported peer problems [11]. Abnormal peer problems scores were higher among male participants in our study, while both male [21.2%] and female adolescents [22.7%] scored in the abnormal category almost similarly in the hyperactivity

subdomain, much higher than the rate reported by Puwar T et al, at 3% [11]. While the underlying reason for such differences is not completely understood, it has been observed that adolescent boys engage in aggressive activities and substance dependence to cope mental stressors while girls respond by internalizing emotions. Societal changes, peer influence and biological differences between boys and girls could also contribute to variations in their responses, which need to be dealt with by adopting strategies based on need.

Our study also found that aided schools reported higher rates of adolescents scoring in the abnormal range across all subdomains. While this is an interesting study finding, it remains one of concern. This is an area that needs further probing as limited studies exist on assessing the relation between schooling system and mental disorders. Future research can further explore the determinants of mental health outcomes in relation to the schooling system.

In the Indian educational system, there exists a scarcity of counselors in most schools, especially in aided and government-supported schools. Schools in the public sector are weighed down by a lack of trained school counselors. The availability of trained personnel to meet the psychological problems faced by adolescents is an urgent but unmet need. The value of having school staff and school counselors in liaison with mental health professionals in other settings has been invaluable in protecting adolescents' long-term outcomes through early detection and services [25, 26]. The availability of school counseling services and provision of liaison officers collaborating with school system can be an invaluable resource in maintaining adolescents' mental health. The adolescents attending government and aided schools may also hail from underprivileged families with parents having lower educational attainment and hence, may not have access to the appropriate healthcare resources or means to improve on proper parenting skills, which may enhance adolescent outcomes. In this regard, the influence of the microsystem [8, 27, 28] involving

the immediate family, parenting, and school systems cannot be emphasized enough. In addition to the need for school counsellors, it is also necessary that teachers can identify behavioral changes among adolescents. Being vulnerable to the impact of surroundings, peer and experiences from day-to-day events impacts the development of adolescents. Hence, teachers may play an important role where there is a dearth of school counselors. Apart from this, screening adolescents may identify those who need intervention early and preventing poor long-term outcomes among them. Schools can also be encouraged to engage with social health services that can identify and provide support to adolescents

To conclude, mental and behavioral health is an imperative factor in one's wellbeing. Our study findings indicate that a higher proportion of the in-school adolescents have scored in the abnormal range on the SDQ. It has also been observed that male adolescents had a higher rate of scoring in the abnormal range across the domains except under the emotional symptoms, where female adolescents predominated, and the hyperactivity subdomains, where both male and female adolescents scored similarly. There are far reaching implications of mental health conditions among adolescents given that India has a substantial adolescent population. In the absence of measures to stem this burgeoning problem among them, there is a possibility that these conditions could lead to long term morbidity and consequently bear an impact on their lives. Keeping in mind the burden of mental and behavioral problems, the Indian government has brought the Mental Healthcare Act into force in 2017[29, 30]. While the Act has several provisions, implementation of the exact needs to take on a multi-pronged approach while considering the varied socio-cultural aspects, including increasing awareness and reducing social stigma related to mental health conditions and help-seeking. Including life skills education to adolescents prove to be valuable in helping promote mental wellbeing. Provisions for retaining school counselors who are skilled and

have the demonstrated ability to liaison with mental health professionals are the need of the hour. Integrating mental health services through the school system providing a continuum of care may have a significant impact on their mental well-being as well as promote long-term educational goals. Continued skill transference to counselors or teachers to identify early signs among their wards and establishing chains of referral between the school and mental health providers in the local settings will also be of benefit and provide a safe environment for the parents and students to access care. This requires targeted interventions involving multiple stakeholders, including school systems and community stakeholders with a view to improve the mental health of adolescents.

The study only utilized SDQ self-reporting questionnaire for youth. The parent and teacher versions of this standardized questionnaire were not included in this study. Additionally, a qualitative component could have been included from parents and teachers' perspective to gain insights on the current unmet need in dealing with such scenarios. Research studies in the future may consider including these aspects.

References

1. Herrman H, Saxena S, Moodie R. Promoting mental health: concepts, emerging evidence, practice: a report of the World Health Organization, Department of Mental Health and Substance Abuse in collaboration with the Victorian Health Promotion Foundation and the University of Melbourne. World Health Organization 2005, pp.288

2. Chowdhury A, Gupta K, Patel AK. Attitude, Belief, and Perception Toward Mental Illness Among Indian Youth. MAMC J Med Sci 2019, 5:83-8.

3. World Health Organization. Improving the mental and brain health of children and adolescents (Internet). (Cited 2021 June 12.) Available from:
https://www.who.int/activities/Improving-the-mental-and-brain-health-of-children-and-

adolescents

4. Gururaj G, Varghese M, Benegal V, Rao G, Pathak K, Singh L. National Mental Health Survey of India, 2015-16: Summary. NIMHANS Publication. 2016.

5. Bhola P, Kapur M. Child and adolescent psychiatric epidemiology in India. Indian J Psychiatry 2003, 45(4):208–17.

6. Kessler RC, Amminger GP, Aguilar-Gaxiola S, Alonso J, Lee S, Üstün TB. Age of onset of mental disorders: A review of recent literature. Curr Opin Psychiatry 2007, 20(4):359–64.

7. Reddy B, Biswas A, Rao H. Assessment of Mental Health of Indian adolescents studying in urban schools. Malaysian J Paediatr Child Heal 2011, 17.

8. Sekaran VC, Kamath VG, Ashok L, Kamath A, Hegde AP, Devaramane V. Parenting attitudes and dimensions as predictors of adolescent behavioural problems in the Indian context: A community-based study. Asian J Psychiatr 2020, 50.

9. Lincoln A, Paasche-Orlow M, Cheng D, Lloyd-Travaglini C, Caruso C, Saitz R, et al. Impact of health literacy on depressive symptoms and mental health-related: quality of life among adults with addiction. J Gen Intern Med 2006, 21(8):818–22.

10. Roy K, Shinde S, Sarkar BK, Malik K, Parikh R, Patel V. India's response to adolescent mental health: a policy review and stakeholder analysis. Soc Psychiatry Psychiatr Epidemiol 2019, 54(4):405-14.

11. Puwar T, Yasobant S, Saxena D. Are school-going adolescents mentally healthy? Case study from Sabarkantha, Gujarat, India. Indian J Community Med 2018, Suppl S1:23-7.

12. Goodman A, Goodman R. Strengths and difficulties questionnaire as a dimensional measure of child mental health. J Am Acad Child Adolesc Psychiatry 2009, 48(4):400–3.

13. Wessels, J., 2006. A Comparative Study of Indian Government , Private - Aided and Private - Unaided Primary Low - Fee Educational Institutions. (Internet) (Cited 2021 August 17) Available from: bhum.gov.in/DPSC/reference/109.pdf

14. Datta P, Ganguly S, Roy BN. The prevalence of behavioral disorders among children under parental care and out of parental care: A comparative study in India. Int J Pediatr Adolesc Med. 2018, 5(4):145–51.

15. Sarkar S, Sinha VK, Praharaj SK. Depressive disorders in school children of suburban India: An epidemiological study. Soc Psychiatry Psychiatr Epidemiol 2012, 47(5):783–8.

16. Rimal HS, Pokharel A. Assessment of mental health problems of school children aged 11-17 years using self report strength and difficulty questionnaire (SDQ). J Nepal Paediatr Soc 2013, 33(3):172–6.

17. Jha K, Singh S, Nirala S, Kumar C, Kumar P, Aggrawal N. Prevalence of depression among school- going adolescents in an Urban Area of Bihar, India. Indian J Psychol Med 2017, 39(3):2017.

18. Madasu S, Malhotra S, Kant S, Sagar R, Mishra A, Misra P, et al. Anxiety disorders among adolescents in a rural area of northern India using Screen for Child Anxiety-Related Emotional Disorders tool: A Community-based Study. Indian J Community Med Off Publ Indian Assoc Prev Soc Med 2019, 44(4):317.

19. 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 Journal of Psychiatry 2017, 30:114–7.

20. America MH. Conduct Disorder (Internet). Online. 2021 (cited 2021 Feb 15). Available from: https://www.mhanational.org/conditions/conduct-disorder

21. Van Roy B, Grøholt B, Heyerdahl S, Clench-Aas J. Self-reported strengths and difficulties in a large Norwegian population 10-19 years: Age and gender specific results of the extended SDQ-questionnaire. Eur Child Adolesc Psychiatry 2006, 15(4):189–98.

22. Ceylan MF, Tural Hesapcioglu S, Kasak M, Yavas CP. High prevalence of nonsuicidal self-injury, tattoos, and psychiatric comorbidity among male adolescent prisoners and their sociodemographic characteristics. Asian J Psychiatr 2019, 1;43:45–9.

23. Sarkhel S, Sinha V, Arora M, DeSarkar P. Prevalence of conduct disorder in schoolchildren of Kanke. Indian J Psychiatry 2006, 48(3):159.

24. 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):1–7.

25. Fazel M, Hoagwood K, Stephan S, Ford T. Mental health interventions in schools in high-income countries. Lancet Psychiatry 2014, 1:377–87.

26. Green JG, McLaughlin KA, Alegría M, Costello EJ, Gruber MJ, Hoagwood K, et al. School mental health resources and adolescent mental health service use. J Am Acad Child Adolesc Psychiatry 2013, 52(5):501–10.

27. Sekaran VC, Ashok L, Kamath VG, Kamath A, Hegde AP, Devaramane V. Parental

Involvement – Perceptions of Parents and their Adolescent Children. Indian J Pediatr 2020, 87(3):200–6.

28. Aboobaker S, Jangam K V., Sagar KJV, Amaresha AC, Jose A. Predictors of emotional and behavioral problems among Indian adolescents: A clinic-based study. Asian J Psychiatr. 2019, 39:104–9.

29. Ministry of Health and Family Welfare G of I. Mental Healthcare Act, 2017 (Internet). 2017 (cited 2021 Feb 15). Available from:
https://legislative.gov.in/sites/default/files/A2017-10.pdf

30. Math SB, Basavaraju V, Harihara SN, Gowda GS, Manjunatha N, Kumar CN GM. Mental Healthcare Act 2017–aspiration to action. Indian J Psychiatry. 2019, 61(4):S660.

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