



Mental health of school going adolescents in North coastal Andhra Pradesh-An analytical Cross-sectional study

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Type of Publication: Original Research Paper

Conflicts of Interest: Nil

Abstract

Background: Globally, mental health conditions account for 16% of health burden and disease among adolescents. Depression is one among them. India is a home for about a quarter of adolescents. School environment is where adolescents spend most of their time. Identifying the mental health status of school going adolescents and level of parental understanding would help in directing towards institution of measures to improve their mental health. Hence this study was conducted to assess and compare the prevalence of mental health problems (anxiety, loneliness, and hopelessness) and protective factors (parental understanding) among govt and private school students.

Methodology: An Observational study was done to assess the prevalence of mental health problems among 833 school students (Government and Private) of 8th, 9th and 10th classes in Visakhapatnam using a self-administered questionnaire. It was a pre-tested standardized questionnaire based on WHO Global School-based Student health Survey questionnaire modified for local setting.

Results: A total of 833 students, 474 (56.9%) were girls and 359 (43.1%) were boys. About 75(9%) of students felt lonely most of the time. About 87(10.4%) of students reported that they were worried most of the times. Private school students (10.7%) reported loneliness more as compared to Government (5.3%) and this was found to be statistically significant.

Conclusions: Mental health problems like loneliness, anxiety and worthlessness are prevalent among school going students which can be reduced by creating awareness among students, teachers, and parents. Mental health measures incorporated in to the school curriculum might bring change in the student's behaviour.

Keywords: GSHS, mental health, school students, anxiety, worry, loneliness

Introduction

The World Health Organization has defined "adolescents" as persons in the 10-19 years age group^[1]. Adolescence is a transitional phase between childhood and adulthood characterized by marked acceleration in growth^[2]. Not only physical changes, adolescence is also a period during which significant

psychological development occurs. The physical, psychological, and behavioural changes taking place during adolescence contribute to many of the mental health problems. Many mental health disorders first emerge in late childhood and early adolescence and may continue into adulthood^[3]. During adolescence,

most of the teenagers start to make personal lifestyle choices and develop different behaviour patterns. Many of these lifestyle choices are related to risk behaviours resulting in disease outcomes^[4].

Mental health conditions account for 16% of the global burden of disease and injury in people aged 10–19 years. Nearly half of these start by the age of 14 years. Most of these are undetected and untreated. Globally, depression is one of the leading causes of illness and disability among adolescents. Suicide is the third leading cause of death in 15–19-year-old. Most of these mental health conditions are preventable. The consequences of not addressing adolescent mental health conditions extend to adulthood, impairing both physical and mental health and limiting opportunities to lead fulfilling lives as adults^[5].

Parents and peers play a prompt role in influencing the mental health of the child. Parental bonding and connection is associated with lower levels of depression and suicidal ideation, alcohol use, sexual risk behaviours, and violence^[6].

Our study aims to identify these mental health problems, so that timely identification, increasing awareness among students, teachers and parents and proper guidance promote mental health of the adolescents who are the future adults. Hence, the present study was conducted with an objective to assess and compare the prevalence of mental health problems namely anxiety, loneliness and hopelessness among Government and Private school students. To study the association between Socio-Demographic Factors and mental health problems among school students.

Methodology

Study design: Observational, Analytical Cross-Sectional study

Study setting: Private and Government (Govt) schools of Visakhapatnam city

Study period: July 2017 to August 2018

Study subjects: Students of 8,9,10th classes

Sample size: The sample size was calculated considering the prevalence of loneliness among adolescents as 17.3%^[7] using the formula $4pq/l^2$

Where p prevalence=17.3%, $q=100-p=72.7$, 1 - allowable error 15% of p

$$4 \times 17.3 \times 72.7 / 3 \times 3 = 745$$

Adding 15% non-response rate the final sample size is calculated using the formula $n_2 = n_1 / 1 - NR$.

Where n_1 is previous sample size; NR =non response rate n_2 is the final sample size.

The final sample size is 877.

Sampling technique: Multistage sampling technique was followed. In the first stage, the schools were selected randomly to include both Government and Private schools in Visakhapatnam city. The list of schools within the Greater Visakhapatnam Municipal Corporation (GVMC) jurisdiction was obtained from the District Education Officer. Out of the total 156 recognized high schools, 41 were Government schools and 115 were private schools. Among them, three govt and six private schools were selected randomly using random number tables. In the second stage students of 8th, 9th and 10th classes were included by simple random sampling from the selected schools so that ratio between govt and private students is around 2:3, as the total number of students in 8th, 9th, 10th classes in the recognised Govt and private schools was around 26467 and 39079 respectively. The procedure for selection of study subjects is shown in Figure 1.

The total number of students participated were 877 whereas 44 students were excluded from the study as their data was inadequately filled or partially filled.

Pre-tested standardized validated mental health questionnaire based on WHO Global School-based Student health Survey questionnaire^[8] modified for local setting was used for obtaining information regarding mental health problems was obtained. The questionnaire was also translated into local language i.e. Telugu. The questionnaire was administered either in English or Telugu as per the students' choice.

Method of data collection:

In the first step, the selected schools were approached and permission was obtained from the Head of the institution for carrying out the study. The principals were asked to inform the parents through their wards and take their consent. The list of students of the 8th, 9th and 10th classes was obtained and students

were selected randomly from each class using random number table. Not more than 30 students were included from each section of a class.

Participants were made to sit separately, and the researcher ensured that they do not get to see other participant's questionnaire. The purpose of the study was explained in detail along with questionnaire before administering it.

The students whose parents gave consent and showed willingness to participate in the study and who are available at the time of conduct of the study were included and anonymity was assured.

The questionnaire includes questions related to sociodemographic data, symptoms of hopelessness as an indicator for depression, anxiety, loneliness, which give information regarding mental health status in the past 12 months.

Responses to these three questions were rated on a 5-point frequency scale that was recoded into dichotomous variables. 'Most of the time' and 'always' were considered to be markers of a higher-risk mental health status (a greater likelihood of a mental health disorder). 'Sometimes', 'rarely', and 'never' were considered to be markers of a lower-risk mental health status (a lower likelihood of having a mental health disorder^[9]).

Study analysis:

Data was entered in MS excel sheet and double checked for duplication and further it was analyzed using SPSS trial version 21.0. Qualitative variables were calculated as percentages.

Quantitative variables were expressed as means. Chi square test was used to test significance of association between socio-demographic factors and mental health problems among school students. The p value < 0.05 was considered as statistically significant.

Approval from the Institution Ethics Committee of the Medical College for the study was taken. Permission from the District Educational Officer, Principal/Head of the School was also taken. The proxy consent of the parent or legal guardian was obtained. Assent from the child was obtained prior to conduct of study.

Results:

The total participants included in the study were 833 among which 262 students are from

Government schools and 571 students are from private schools. Out of them, 474 (56.9%) were girls and 359 (43.1%) were boys.

Mean age of boys was 13.8 ± 1.2 years and that of girls was 13.62 ± 1.1 years

Out of the 833 students, 337 belonged to 8th class, 308 belonged to 9th class and

188 students belonged to 10th class. About 88 boys and 174 girls belong to government schools whereas 271 boys and 300 girls belong to private schools. In both Government as well as private schools the number of girls was more than number of boys.

The distribution of students based on their options for self-reported loneliness, worry and feeling of life not worth living was shown in Figure 2. Figure 3 show the distribution of students based on their mental health status.

As shown in Table : 1, girls (9.7%) reported more loneliness compared to boys (8.1%). Loneliness is more in early adolescents compared to late adolescents. Significantly, more percentage of private school students reported loneliness compared to Government school students.

About 11.2% girls and 9.5% boys reported that they always or most of the times felt worried. Almost similar percentage of private and Government school students reported that felt worried. More number of late adolescents felt worried when compared to early adolescents. (Table :2)

Table 3 shows that about 7.8% boys and 9.1% girls reported that they always or most of the times felt life is not worth living. More number of late adolescents (11.3%) compared to early adolescents (7.6%) and more private school students (9.5%) compared to government school students (6.5%) reported that they always or most of the times felt life is not worth living.

Discussion:

Feeling of loneliness:

In the present study about 75(9%) students reported that they felt lonely always or most of the time. This was in accordance to that reported from Global School based Health Survey (GSHS) India in 2007

(8.4%), GSHS Srilanka(8.5%), Thailand (9.8%)⁽³⁾ and a study done by Das et al^[10] (8.1%). Loneliness was reported more in the present study (9%) compared to that of the GSHS done in Bangladesh(4.7%), Indonesia(6.7%) and Nepal(6.7%)⁽³⁾

Whereas loneliness was reported to be 15.7% in a study done by R M.Anitha et al^[11] in Chennai and 17.3% in Samantha et al^[7].

In contrast Ziaei et al^[12] in their study among high school students in Iran stated that 84.9%, students felt lonely. This difference might be due to variation in methodology used.

In the present study girls (9.7%) reported more loneliness compared to boys (8.1%). This was in accordance with the findings of GSHS^[3] done in Bangladesh [boys – 4.4%; girls -5.1%], India [boys – 7.4%; girls -9.8%], Indonesia [boys – 6%; girls - 7.3%], and Srilanka [boys – 7.3%; girls -9.5%] and studies by R M Anitha et al^[11] girls (19.4%) boys (11.7%) and Karl Peltzer and Supa Pengpid^[13] in Ghana and Uganda [Boys-8.5; girls -11.2%].Whereas in Nepal

boys (6.5%) and girls (6.7%) reported almost similarly. Contrastly, boys reported more loneliness in Thailand.

Significantly, more percentage of private school students (10.7%) reported loneliness compared to government school students (5.3%). Similar study done by Jain A et al^[14] also found that self-perceived and reported stress levels were higher in private school students (36.5%) compared to the government school students (15.2%).This might be because of the less time spent with friends and also less extracurricular activities by private school students. They are more into the race of academic excellence which might sometimes be burdensome to the student.

Self-reported worry or anxiety:

In the present study 10.4% students reported that they were worried about something that they could not sleep at night always or most of the times. This was in accordance to that reported in GSHS^[2] done in Thailand (9.2%) and a study done by Das, et al^[9] in West Bengal(9.6%). More percentage of students reported to be worried in the present study when

compared to that found in GSHS India (2007)(7.8%) .The reason might be increase in competitiveness in education and more stress is laid on the students regarding their excellence in academic activities. The percentage of students who reported that they were worried in GSHS done in other countries namely Bangladesh, Indonesia, Nepal and Srilanka were 4.7%,4.8%,4.6% and 4.6% respectively which were lower when compared to that reported in the present study.

In studies done by RM Anitha et al^[10] and Samantha et al^[7] about 17% students could not sleep at night most of the days because of worries which was higher when compared to the present study.

In the present study, more percentage of girls (11.2%) reported to have worried when compared to boys (9.5%). This was similar to that seen in studies done by RM Anitha et al^[10] in Chennai [15.5% boys,18.5% girls]; Karl Peltzer and Supa Pengpid^[13] GSHS Ghana and Uganda[6.5% boys,11% girls] ; GSHS^[2] done in Bangladesh[6.5% boys,11% girls]; India[7.2% boys,8.5 girls]; Srilanka [4.2% boys,4.9% girls]; Thailand[9% boys,9.4% girls];In GSHS Nepal the percentage was similar in both boys and girls. Whereas in GSHS Indonesia boys reported to have more worried than girls.

Both loneliness and worry were more in girls compared to boys this difference might be due hormonal influences or the societal practises of giving more importance to boys and keeping more restriction for girls.

In the present study more number of late adolescents felt worried when compared to early adolescents. This was similar to that found in a study done by RM. Anitha et al^[11] where 19.5% of students of age 15 – 18 years reported to have felt worried compared to 13.5% of students of age 12 to 14 years. This might be due academic pressure and also decision making time regarding career aspects. Peer pressure might also have high influence in late adolescents; also they try to build relationships with others and also try to strengthen those relationships.

Self-reported feeling of life not worth living:

In this study about 3.1% students always felt that their life was not worth living. 5.4% students most of the times felt that their life was not worth living. In a study done by Ziaei et al^[12] among high school

students in Iran 4.1%, students mentioned that they had seriously considered attempting suicide in the past 12 months. The difference might be due to different questions used to elicit the above information. Suicidal ideation as reported in GSHS of South East Asian countries^[3] was Bangladesh (4.9%), Indonesia (5.4%), Nepal (13.7%) Srilanka (9.4%), Thailand (12.5%).

Conclusion: Loneliness, worry and hopelessness (feeling of life not worth living) as indicators of mental illness were prevalent among school going adolescents.

Recommendations:

The awareness among students, teachers and parents should strengthened by way of displaying health promotion messages in the school premises. Teachers, students and parents should be sensitised regarding the early symptoms mental health issues (like worry, loneliness) so that students with such traits are identified and counselled. Peer group training can be taken up as a strategy to educate the students about healthy lifestyles. Rewarding time to time students who regularly follow healthy habits and involving them in peer group training can be done. The parents should be encouraged and guided by the way of parent teacher meetings to know more about their children. The parents should also be sensitized about their role in promoting the mental wellbeing of their children.

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Table 1 : Association of socio-demographic factors with feeling of loneliness

Socio Demographic Factor	Always or most of the times felt lonely		Chi square value	p value
	Yes (Higher risk) n(%)	No(lower risk) n (%)		
Boys	29(8.1)	330(91.9)	0.6597	0.416
Girls	46(9.7)	428(90.3)		
Early adolescence	59(9.4)	570(90.6)	0.4441	0.505
Late adolescence	16(7.8)	188(92.2)		
Govt. school	14(5.3)	248(94.7)	6.2421	0.012
Private school	61(10.7)	510(89.3)		

Table 2 : Association of socio-demographic factors with worries/anxiety

Socio Demographic Factor	Always or most of the times felt worried		Chi square value	p value
	Yes (Higher risk) n(%)	No(lower risk) n(%)		
Boys	34(9.5)	325(90.5)	0.6391	0.424
Girls	53 (11.2)	421(83.5)		
Early adolescence	61 (9.7)	568 (90.3)	1.5292	0.216
Late adolescence	26(12.7)	178 (87.3)		
Govt. school	26 (9.9)	236 (90.1)	0.1107	0.739
Private school	61(10.7)	510 (89.3)		

Table 3 : Association of socio-demographic factors with feeling of life not worth living”

Socio Demographic Factor	Always or most of the times felt life is not worth living		Chi square value	p value
	Yes (Higher risk) n(%)	No (lower risk) n(%)		
Boys	28(7.8)	331(92.3)	0.4241	0.514

Girls	43(9.1)	431(90.9)		
Early adolescence	48(7.6)	581 (92.4)	2.6225	0.105
Late adolescence	23(11.3)	181(88.7)		
Govt. school	17 (6.5)	245(93.5)	2.0298	0.154
Private school	54(9.5)	517(90.5)		

Figure 1 : Procedure for selection of study subjects

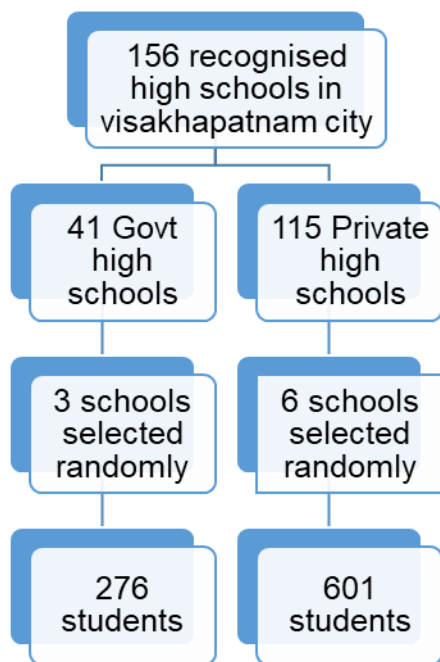


Figure 2 : Distribution of students based on their options for the three questions on mental health

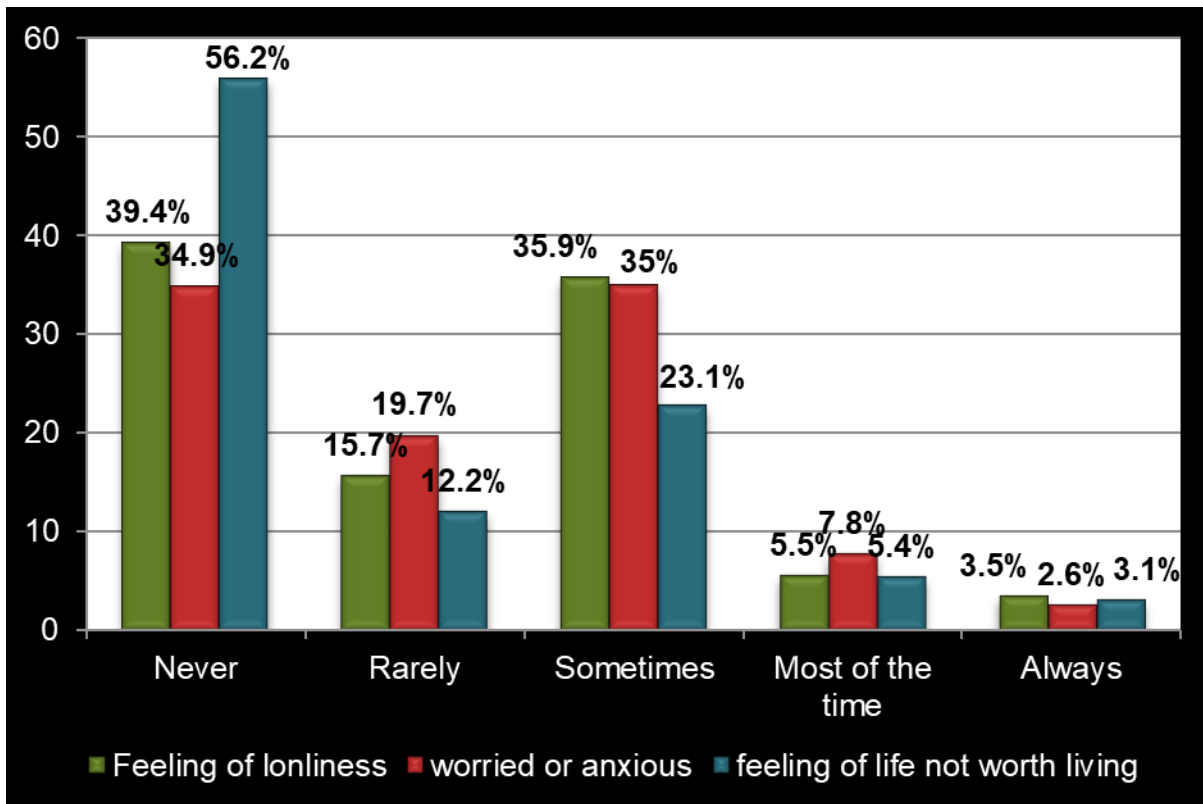


Figure 3 : Distribution of students based on mental health status

