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Mental Health Status of the School-Going Adolescents in an Urban Area: Cross-sectional Assessment from Kolkata, India

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Abstract:
Background*: Well-developed adolescents who were empowered with appropriate life skills, had a better chance of becoming healthy, responsible and productive adults, leading to better potentials for leading successful careers, and increased productivity and progress.For most of the adolescents, school is the most important setting outside the family. Students' perceptions of the school environment are associated significantly to their health and well-being.The present study aims to find out the mental health related issues among the study population and association if any with the various socio-demographic factors among the adolescents in an urban community of Kolkata, India.*
Materials and Methods*:The current school-based descriptive study with a cross-sectional design was conducted in a randomly selected boys' school in Chetla area of Kolkata. The data collection was done during the period of December, 18 – January, 19 with a pre-designed, pre-tested and validated structured schedule. Adolescents studying in classes V – XII were surveyed. Total of 194 students were included in the final analysis.*
Results*: Around 51.54% belonged to 14-16 years age group, 44.32% belonged to nuclear families, while 65.46% adolescents had both parents being literate.It was observed that 2.5% of the study population tried to commit suicide in last 12 months, while 16.49% of the study population females and as a whole 13.9% of the adolescents seriously thought about committing suicide in last 12 months at least once. There was statistically significant positive association of feeling worried such that they could not sleep properly or that hampered their study or work and with increasing age. Around 12% of the participants admitted to consuming alcohol or drugs.*
Conclusion:*Adolescents should be given special attention as because in this age mental depression and stress, indulgence in tobacco and alcohol etc. take place. To help students develop positive mental health program-end delivery should be enforced.*
Key Word*:Adolescents, Cross-sectional, Mental Health, School, Stress, Urban..*

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I. Introduction

Adolescence is a gateway to health promotion as key behavior patterns that influence health and longevity have their origin in adolescence. Well-developed adolescents who were empowered with appropriate life skills, had a better chance of becoming healthy, responsible and productive adults, leading to better potentials for leading successful careers, and increased productivity and progress.[1] Without adequate regulation and monitoring, children do not learn to self-regulate, tend to be impulsive, prone to risk taking, more susceptible to peer influences, and more likely to engage in various health risk behaviors including alcohol use and sexual risk behaviors.[2]For most of the adolescents, school is the most important setting outside the family. Students' perceptions of the school environment are associated significantly to their health and well-being.[3]

World-wide, approximately 20% of children and adolescents suffer from a disabling mental illness.[4] Depression during adolescence and young adulthood is recognized increasingly as an important public health and social problem. Anxiety disorders, depression and other mood disorders, and behavioral and cognitive disorders are among the most common mental health problems among adolescents. Half of all lifetime cases of mental disorders start by age 14.[5] Worldwide, about 4 million adolescents attempt suicide annually, resulting in at least 100,000 deaths.[6] It is interesting to note that there are only few studies about male adolescent psychosocial problems from India. Most of the epidemiological survey on school going children and adolescents have reported a wide variation (20-33%) in the prevalence of psychosocial problems.[7]The present study aims to

find out the mental health related issues among the study population and association if any with the various socio-demographic factors among the adolescents in an urban community of Kolkata, West Bengal, India.

II. Material And Methods

The current school-based descriptive study with a cross-sectional design was conducted in a randomly selected boys' school in Chetla area of Kolkata. The data collection was done during the period of December, 18 – January, 19. Students studying in classes V – XII were surveyed. Those aged <10 years and >19 years were excluded from the study. One section from each class was selected for the study based on Probability proportionate to size (PPS) method.

A pre-designed, pre-tested and validated structured schedule was prepared following the guidelines laid down in the core questionnaire of Global School Health Survey. Necessary changes were made in some of the questions as per as the requirement of the study. The questionnaire was self-administered. The study tool was translated into local language Bengali and back translated to English to establish translational equivalence. Before the study group were administered the schedule, it was pretested among 30 adolescents from a different school in the area.

The schedule enquired about socio-demographic factors, the extent of psychological stress, suicidal ideation. The discussion of protective factors in school were also sought for, like whether discussed about how to cope with mental stress, whether discussed about how to control anger, whether discussed about mental depression and suicidal tendencies and whether discussed about helping a friend thinking about committing suicide.

Discussions with the head master of the school were done regarding the aims and objectives of the study and his consent was obtained. The other teachers were also explained in brief about the study. One section from each class (i.e. classes V to XII) were selected by PPS method. All students aged between 10 to 19 years of selected sections were chosen as the study population. Students who were present on the day of survey within above mentioned age were registered as a study population. All the said students who were present on the days of visits were included in the present study on obtaining their ascent. Thus on the days fixed beforehand following discussion with the head master of the school, a total of 194 students participated in the study, the data was entered into spreadsheet software and proportions were calculated. Associations with the socio demographic information were computed by Epi info 3.4.3 software.

III. Result

Table 1 summarizes the socio-demographic information of the study participants. Around 51.54% belonged to 14-16 years age group followed by 37.11% fall in the age group of 10-13 years. 44.32% of the study population belong to nuclear families and the rest 55.67% came from joint families. 65.46% adolescents had both parents being literate and only 3.60% of adolescents told that both of their parents were illiterate. 48.96% told that their fathers were manual workers, 13.40% told that their fathers were working in office, 26.80% told that their fathers were involved with business, rest told about miscellaneous jobs termed as others (comprising of teachers, holy pundits, etc.). Mothers of 72.16% study population were housewives and rest did work outside home. About 93.4% of adolescents were Hindus and the rest were Muslims.

Table 2 depicts the different psychosocial issues. About 2.5% of the study population tried to commit suicide in last 12 months preceding the date of survey conducted. No statistically significant difference between age groups in attempting suicide was obtained from the study population. 16.49% of the study population females totaling to 13.9% of the adolescents seriously thought about committing suicide in last 12 months at least once. No statistical significant difference was found between the age group in thinking about committing suicide. 68.04% were never worried such to stop feeding in last 1 year, 14.43% were rarely such worried, 11.34% were occasionally such worried with 6% worried most of the time. Taking never and rarely worried together and occasional with most of the time worried together in relation to the age group it was found to be statistically significantly related with the age group. There was statistically significant association of feeling worried so that they could not sleep properly with age group of the adolescents, it increased with increasing age. 12.37% of the study population took alcohol or drugs to combat mental depression in past 12 months without statistically significant values in age groups. 21.04% adolescents occasionally or most of the time felt so worried about something that hampered study or other work during the past 12 months. There is significant statistical difference between age groups of the study population with increasing age groups.

Table 1: Distribution of the study population according to Socio-demographic variables. (n=194)

Socio-demographic variables	Categories	Number (%)
Age group (in completed years)	*10-13*	72(37.11)
	14-16	100(51.54)
	17-19	22(11.34)
Religion	*Hindu*	146(75.25)
	Muslim	48(24.74)
Type of the family	*Nuclear*	86(44.32)
	Joint	108(55.67)
Parental literacy status	*Father literate, mother illiterate*	31(15.97)
	Father illiterate, mother literate	29(14.94)
	Both parents literate	127(65.46)
	Both parents illiterate	7(3.60)
Father's occupation	*Service (Heavy Work)*	95(48.96)
	Service (Office)	26(13.40)
	Business	52(26.80)
	Others	21(10.82)
Mother's occupation	*Home-maker*	140(72.16)
	Outside work	54(27.83)

Table 2: Distribution of the study population according to mental health related issues among the study participants according age groups in years.

Mental health and mental stress related factors		Age groups (in years) [Number (%)]				P-value (χ^2, df)
		10-13 (n = 72)	14-16 (n = 100)	17-19 (n = 22)	Total (n = 194)	
Feeling of so worried about something that they could not eat properly during the past 12 months	*Never*	57(29.38)	60(30.92)	15(7.7)	132(68.04)	**0.040* (4.0, 3)**
	Rarely	8(4.12)	18(9.2)	2(1.03)	28(14.43)	
	Occasional	4(2.06)	16(8.2)	2(1.03)	22(11.34)	
	Most of the time	3(1.5)	6(3.0)	3(1.5)	12(6.0)	
Feeling of so worried about something that they could not sleep at night during the past 12 months	*Never*	58(29.89)	58(29.89)	13(6.70)	129(66.49)	**0.001* (14.31, 3)**
	Rarely	9(4.63)	14(7.21)	1(0.51)	24(12.37)	
	Occasional	4(2.06)	24(12.37)	7(3.6)	35(18.04)	
	Most of the time	1(0.51)	4(2.06)	1(0.51)	6(3.09)	
Most of the time or always felt so worried about something hampering study or other work during the past 12 months	*Never*	58(29.89)	58(29.89)	13(6.7)	129(67.53)	**0.0004* (12.51, 3)**
	Rarely	9(4.63)	14(7.21)	1(0.51)	24(12.37)	
	Occasional	4(2.06)	24(12.37)	7(3.6)	35(18.04)	
	Most of the time	1(0.51)	4(2.06)	1(0.51)	6(3.0)	
Alcohol or drugs consumption due to mental depression in last 12 months	*Never or Rare*	66(34.02)	87(44.84)	17(8.7)	170(87.62)	0.27 (1.18, 1)
	Occasional	6(3.0)	13(6.7)	5(2.5)	24(12.37)	
Seriously thought about committing suicide in last 12 months	*Nil*	72(37.11)	74(38.14)	16(8.2)	162(83.5)	0.21 (1.30, 1)
	≥ Once	0.0 (0.0)	26(13.4)	6(3.0)	32(16.49)	
Attempted suicide in last 12 months	*Nil*	71(36.59)	98(50.51)	20(10.3)	189(97.5)	0.277 (0.18, 1)
	≥ Once	1(0.51)	2(1.03)	2(1.03)	5(2.5)	

*χ^2 : χ^2 value; df: degrees of freedom; * : Yates correction*

Figure 1 shows distribution of the study population according to the different protective factors against mental ill health discussed at schools or by the parents at home during the last 12 months.Protective factors against mental ill health discussed at schools during the last 12 months were at very poor level.

Table 3 summarizes the relationship between different socio-demographic factors and the thought regarding committing suicide. Among the socio demographic factors, adolescents seriously thought about committing suicide were significantly related with the type of the family with more cases occurring in the joint families. There were statistical significant relation with maternal and paternal job patterns with more cases occurring in fathers having business .There were no statistical significant relation with the religion and mothers occupation. Serious thoughts about committing suicide is significantly related to severe worries preventing the adolescents from consumption of a days food, or unable to sleep or do study or usual daily works.

Figure 1. Distribution of the study population according to the different protective factors against mental ill health discussed at schools or by the parents at home during the last 12 months. (n=194)

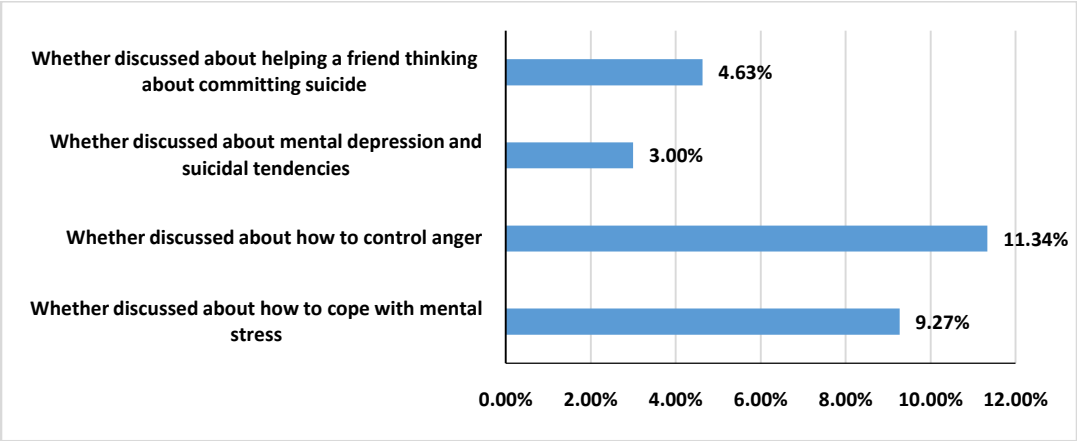

Table 3. Distribution of study population according to socio-demographic and psychological factors and seriously thought about committing suicide by adolescents (n=194)

Socio-demographic and Psychological factors		Seriously thought about committing suicide [Number (%)]		P-Value (χ^2, df)
		Yes (n=32)	No (n=162)	
Religion	*Hindu*	21(10.8)	125(64.43)	0.24 (1.34, 1)
	Muslim	11(5.67)	37(19.07)	
Type of family	*Nuclear*	3(1.5)	69(35.56)	**0.000* (15.45, 1)**
	Joint	29(14.94)	71(36.59)	
Father's occupation	*Service*	12(6.0)	109(56.18)	**0.03* (4.68, 1)**
	Business and Others	20(10.0)	73(37.62)	
Parental literacy	*Father literate, mother illiterate*	0(0.0)	31(15.97)	**0.007* (11.91, 3)**
	Father illiterate , mother literate	3(1.5)	26(13.40)	
	Both literate	26(13.40)	101(52.06)	
	Both illiterate	3(1.5)	4(2.06)	
Mother's occupation	*House wife*	23(11.85)	117(72.16)	0.86 (0.03, 1)
	Outside worker	9(4.63)	45(11.34)	
Could not eat once or more in last 12 months due to worry	*Occasionally and mostly*	26(13.40)	8(4.12)	**0.000* (102.44, 1)**
	Never and rarely	6(3.0)	154(79.38)	
Could not sleep once or more in last 12 months due to worry	*Occasionally and mostly*	28(14.4)	13(6.70)	**0.000* (96.55, 1)**
	Never and rarely	4(2.06)	149(76.80)	
Could not study or work once or more in last 12 months due to worry	*Occasionally and mostly*	23(11.85)	18(9.2)	**0.000* (55.61, 1)**
	Never and rarely	9(4.6)	144(74.22)	

*χ^2 : χ^2 value; df: degrees of freedom; * : Yates correction*

IV. Discussion

In the current study it was observed that 2.5% of the study population tried to commit suicide in last 12 months preceding the date of survey conducted, which was not statistically significant when compared between groups. However, 16.49% of the study population females totaling to 13.9% of the adolescents seriously thought about committing suicide in last 12 months at least once. There was statistically significant positive association of feeling worried such that they could not sleep properly or that hampered their study or work and with increasing age. Around 12% of the participants admitted to consuming alcohol or drugs. The apparent and most

common reason probably is combating the mental stress incurred daily. One important finding was that discussions on how to keep a good mental health were at very poor level during the past one year as reported by the respondents.

Bensley et al. found out in their study the prevalence of suicidal thoughts 7.4%, suicide plan: 4.0%, non-injurious attempt 5.3% and injurious attempt 1.4%.[8] The proportions are found to be more-or-less comparable to the current study. They concluded that efforts to reduce suicidal ideation/behavior among adolescence, particularly early or severe manifestations of the behaviors, should consider the possible role of a history of maltreatment, especially the possibility of sexual abuse.[8] In another study investigating alcohol and drug abuse Bensley et al. reported that, to reduce substance use and abuse in adolescence, particularly heavy use and use early in adolescence, should consider the possible role of a history of maltreatment.[9] Fergusson et al. in a longitudinal study in New Zealand reported around 5% of prevalence of suicide attempt.[10]Basu et al. in their study reported a prevalence of 34.2% for depression which was higher compared to the current findings of psychological morbidity observed in the current study.[11] One straight-forward explanation for this discrepancy is that the current study did not specifically seek depression as an indicator of mental stress. Evans et al. in their review reported varying proportions of suicidal ideation among the adolescents primarily from the developed part of the world, which were comparatively higher as compared to the current study.[12] One explanation may be mis-reporting.

The study had several limitations to it. The study could not accommodate all the adolescents of the said study school due to timing of the study. The findings of the study are as per the response made by the adolescents during the process of interview with the self-administered questionnaire. No verification was made and neither it was feasible during the short time of the study period as well as the nature of the study. Every effort was made to increase the correct response probability by questionnaire anonymity, thorough explanation of questions to the respondents clearly.

V. Conclusion

Adolescents require special attention as because in this age mental depression, indulgence in tobacco and alcohol, sexual intercourse with the peer group and peer group involvements with expeditions also take place. To help students develop positive mental health, school mental health and social services can teach life-skills such as problem-solving, critical thinking, communication, interpersonal relations, empathy, and methods to cope with emotions and crises. In addition, school mental health and social services can include prevention, assessment, treatment, and case management for students either directly or through referrals to community-based programs. School health programmes can help create a supportive and caring school environment and provide students with knowledge and skills they need to develop positive and supportive relationships with their peers and families. The involvement of the community with special emphasis on community leaders and health worker involvement along with involvement of the NGOs if possible. The parents have to be made aware about these situations by taking classes, group discussion and counseling if required by the help of psychiatrists, medical officers and health workers.

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