

PREVALENCE OF SOCIO-EMOTIONAL PROBLEMS IN SCHOOL-AGED ADOLESCENTS OF ARMY PUBLIC SCHOOLS OF RAWALPINDI

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ABSTRACT

Introduction: Socio-emotional problems in adolescents cause considerable morbidity and social incapacity, but knowledge regarding its actual prevalence in Army public schools is limited.

Objective: To assess the prevalence of socio-emotional problems in school-aged adolescents of Army Public schools of Rawalpindi.

Study Design: Descriptive cross sectional study.

Place and Duration of Study: Study was conducted in the Army Public School and College Fort Road Rawalpindi, from Mar to Sep 2018.

Materials and Methods: Class 8th students (males and females) of Army Public school Fort Road were recruited through universal sampling. Strength and Difficulty Questionnaire was administered to assess the socio-emotional status of adolescents and relationship with age and gender was assessed.

Results: Of the 320 students, 292 (91%) questionnaires were completed. On the basis of standard cut offs 54% of the students were in normal category, 19% were borderline at risk, 17% in high risk and 10% in very high risk category. Gender wise analysis of the individual behavioral scores showed significant results for emotional problems (p -value=0.029), hyperactivity (p -value=0.001), prosocial behavior (p -value=0.006) and total difficulty scores (p -value=0.048). For age (below and above mean), significant results were observed for hyperactivity (p -value=0.04), prosocial behavior (p -value=0.043) and total difficulty scores (p -value=0.018).

Conclusion: Study being a part of the feasibility trial of School mental health project in APSACS will help to provide an insight into the burden of the issue in order to formulate integrated promotional and preventive services.

Keywords: Socio-emotional problems, Strength and difficulties questionnaire, Prevalence.

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INTRODUCTION

It is projected that by 2030 mental health disorders will be one of the leading contributors in the global burden of disease¹. Mental health of children and adolescents is a pivotal field of health concern globally. These problems are known to affect 10 to 20 percent of child and adolescents' population worldwide² and accounts for 16% of the global burden of disease in this age bracket. Depression is known to lead as the cause of disability in adolescent age group and suicide is the third major cause of death³. Despite of this, only a third of those suffering from mental health disorders are receiving treatment, and represents the tip of the iceberg⁴. Even though, they bear a

prominent reason for health-related incapacity in this age bracket and confer chronic outcomes, there is absence of empirical data on burden of the mental health issues of children and adolescents, especially in low-income and middle-income countries². Many of these disorders are manageable and hence, provide a firm ground for initiation of preventive and promotional measures⁵.

Located in South Asia, Pakistan is a low income country of World Health Organization Eastern Mediterranean Region. As per the 1998 census, population of Pakistan is estimated to be 132,352,279 of which 23.32% of the population constitutes of adolescents of 10 to 19 years age group⁶. According to epidemiological studies conducted in Pakistan the prevalence of common

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mental issues is around 10% in males and 25% in females from urban settings. Data from rural areas show even a higher prevalence rates⁷. Data regarding mental disorders in adolescents and young population is not much clear owing to the lack of research. But it is estimated that the prevalence of emotional and behavioral problems in school children is around 9.3%⁸.

Socio-emotional health encompasses one's capabilities to express and manage his behavior, emotions and attitudes in a way to enable him to develop positive relations⁹. Research affirms that social and emotional health impacts overall learning attitude, instill eagerness to participate and compete in class activities leading to a better academic performance¹⁰. Adolescents who lack appropriate socio-emotional development may not only have hampered learning, but may also suffer from mental disorders, adult neuropsychiatric illnesses, physical health issues and even early mortality¹¹.

The causation of social and emotional problems in children and adolescents is multifactorial with various genetic, biological, social and environmental determinants playing their parts. It has been observed that family structure, friends and environment can all have their decisive impacts on the adolescents socio-emotional development¹². These problems are known to vary with differing socio demographic factors like age and gender¹³. Various studies have been conducted to study the relationship of socio-demographic determinants such as gender, family structure, maternal factors and socio-economic status (SES). Mother reported SDQ and its association with maternal depression has been seen in a previous study¹⁴. But knowledge of its burden in Army public schools and its relationship with various sociodemographic correlates such as age and gender is limited.

The initiation and provision of appropriate promotional, preventive and therapeutic interventions for socio-emotional problems in adolescents of Army Public Schools demands understanding of their mental health/behavioral needs

and require a thorough knowledge of exact burden of the issue. Literature suggests that the prevalence estimation with regards to the number of adolescents affected by emotional/ behavioral problems fluctuate greatly with change in demography, study settings, study design, and standards set to diagnose problems and to understand functional incapacities¹⁵.

As the evidence regarding prevalence of socio-emotional problems with respect to its burden in school-aged youth of Army Public Schools is missing, this study was conducted to assess the socio-emotional status of school-aged adolescents of these Army Public schools using Strength and Difficulty Questionnaire (SDQ). The results will feed into the feasibility trial for School mental health Project in Army Public Schools.

METHODOLOGY

A cross sectional study was conducted from March to September 2018 in the Army Public school and College Fort Road Rawalpindi. Multi stage sampling was done and in the first stage APS schools of Rawalpindi were divided into 4 clusters. Clusters were formulated on the basis of location and administrative division while taking into account type of schools i.e. whether only for boys/girls or co-education. Cluster containing APS Fort Road had 11 schools in total and was selected through simple random sampling. In the next stage APS Forte Road was further selected from that cluster through simple random sampling. Sample size was calculated by using Open Epi software at 95% confidence level. To achieve the required sample size universal sampling was carried out and all class 8th students both males and females of selected school were included in the study. After informed consent, data was collected through the English version of self-administered SDQ. SDQ is a brief, easy to use and convenient tool to measure strengths and behavioral difficulties of children and adolescents¹⁶. It inquires about 25 attributes for socio-emotional problems grouped into five subscales of five items each, generating scores for conduct, hyperactivity, emotional problems, peer prob-

lems, and prosocial behavior. Total difficulty score was calculated by summing the responses of each item in all domains except pro-social behavior item. Cut-off scores for total difficulties were used to identify normal (0-13), borderline-at risk (14-16), high risk (17-19) and very high risk (20-40). While that for individual subscales scores were as:

Data was analyzed using Statistical Package for Social Sciences (SPSS) version 22. Descriptive data on numerical variables was analyzed through mean and standard deviation (SD) while categorical values were analyzed in the form of

Table-I: Categorizing SDQ scores for 4-17 year olds.

SDQ Scores	Normal	Borderline	Abnormal
Emotional problems score	0-5	6	7-10
Conduct problems score	0-3	4	5-10
Hyperactivity score	0-5	6	7-10
Peer problems score	0-3	4-5	6-10
Prosocial score	6-10	5	0-4

Table-II: Socio-Demographic characteristics and SDQ scores of overall sample.

S. No.	Quantitative Variable	Mean \pm SD
1.	Age	13.50 \pm 0.705 years
2.	Qualitative variable	Frequency n (%)
3.	Gender	Male
		Female
4.	Prevalence of socio-emotional problems in overall sample	
	SDQ cut offs	n%
	Normal	158 (54)
	Borderline- at risk	56 (19)
	High risk	50 (17)
	Very high risk	28 (10)

frequencies and percentages and relationship of gender and age with SDQ scores was observed by chi square test. A *p*-value of <0.05 was considered significant.

RESULTS

Of the 320 students sampled for the study, 292 questionnaires were completed by the respondents, giving a response rate of 91%. The mean age of students was 13.50 \pm 0.705 years (table-II) with ages of the students ranging from 11 to 16 years. Of the total sample 48% of the respondents were males and 51% were females. As far as the occupation of fathers of the students

is concerned 28% of the fathers were officers in Armed Forces, 23% were Junior Commissioned Officers/Other Ranks and 49% were civilians.

On the basis of the cut offs 54% of the students fall in the normal category, 19% in borderline at risk, 17% are high risk and 10% fall in very high risk category.

Total SDQ score and individual behavioral scores (emotional, conduct, hyperactivity, peer problems and prosocial behavior) were compared with age and gender. Gender wise analysis of the individual behavioral subsets rating showed that there were no significant results for conduct and

peer problems. Results were significant for emotional problems (*p*-value=0.029), hyperactivity (*p*-value=0.001), prosocial scale (*p*-value=0.006) and total difficulty scores (*p*-value=0.048) on the basis of gender.

Age was categorized into below mean and above mean and difficulty scores were classified similarly to that for gender. On the individual subscales for age the results were not significant for emotional, conduct and peer problems. However significant results were observed for hyperactivity (*p*-value=0.04), prosocial scale (*p*-value=0.043) and total difficulty scores (*p*-value=0.018) (table-III).

DISCUSSION

The present study aimed to assess the prevalence of socio-emotional problems of class 8th students in Army Public School of Rawalpindi with a view to examine its association with key socio-demographic variables i.e. age and gender. Self-reported 25-item SDQ was used for assessment of socio-emotional problems in the selected sample. The SDQ has been used in many studies in Pakistan and internationally and is known to have good validity when comparing it with other study tools such as the child's behavior checklist¹⁷. Moreover SDQ in addition to

were in borderline risk while 9.2% of the total participants were having a very high SDQ score¹⁹. Our values were also higher than the values found in study conducted among 1313 Saudi male students where 109 (8.3%) were emotionally and/or behaviorally disturbed²⁰.

Elhamid, Howe, and Reading studied prevalence of emotional and behavioral problems in 6 to 12 years old children of Egypt. Multi informant (teachers and parents reported) SDQ was used for collection of data. Teacher reported analysis showed a prevalence of 34.7% (95% CI 32.0-37.5) and that of parents to be 20.6% (18.2-

Table-III: Association of gender and age with SDQ Scores of respondents.

		Male n (%)	Female n (%)	Total	p-value	Age ≤ Mean n (%)	Age > Mean n (%)	p-value
Emotional Problem	Normal	73 (52.2)	82 (57.1)	155 (54.7)	0.029	83 (54)	66 (55)	0.925
	Border Line	30 (21.2)	26 (17.9)	56 (19.6)		23 (15)	20 (16)	
	Abnormal	37 (26.5)	36 (25)	73 (25.8)		48 (31)	36 (30)	
Conduct Problems	Normal	74 (52.2)	83 (57.1)	123 (54.8)	0.792	83 (56)	68 (54)	0.295
	Border Line	30 (21.2)	26 (17.9)	56 (19.5)		24 (16)	29 (23)	
	Abnormal	38 (26.9)	36 (25.0)	74 (25.9)		42 (28)	29 (23)	
Hyperactivity	Normal	73 (51)	95 (66.9)	167 (58.5)	0.001	135 (86)	95 (80)	0.04
	Border Line	30 (20.9)	25 (17.6)	54 (18.9)		6 (4)	13 (11)	
	Abnormal	40 (27.9)	22 (15.4)	66 (23.1)		16 (10)	8 (9)	
Peer Problem	Normal	123 (87.8)	138 (95.1)	261 (91.6)	0.084	105 (30)	67 (39)	0.30
	Border Line	12 (8.5)	5 (3.5)	17 (5.9)		24 (38)	22 (31)	
	Abnormal	5 (3.6)	2 (1.3)	7 (2.4)		49 (32)	25 (30)	
Total SDQ	Normal	71 (48.2)	87 (60.9)	158 (54)	0.048	89 (61.6)	72 (79)	0.018
	Border Line at risk	28 (19.3)	29 (20)	57 (19.7)		31 (21.2)	20 (27)	
	High Risk	33 (22.8)	16 (11.3)	50 (17)		15 (10.2)	30 (23)	
	Very High Risk Children	14 (9.6)	11 (7.8)	25 (8.7)		9 (6.8)	14 (12.8)	
Prosocial scale	Normal	86 (61.6)	64 (44.6)	150 (53)	0.006	145 (96)	107 (87)	0.043
	Border Line	24 (17)	20 (14.3)	44 (15.6)		5 (3)	11 (9)	
	Abnormal	30 (21.4)	59 (41.1)	89 (31.2)		2 (1)	5 (10)	

be available in more than 60 languages is age-specific, brief questionnaire that can be even used by individuals who are not much trained in mental health field¹⁸.

The results of our study showed that 56 (19%) students were reported to be in borderline at risk, 50 (17%) in high risk and 28 (10%) in very high risk category. These values were higher than the study conducted in India on 12 to 16 years old adolescents, where 6% participants

23.2). The scores of the subscales revealed teacher reported prosocial scores to be 24.9% (22.5-27.5) and parents reported scores to be 11.8% (9.9-13.9). Emotional disorder was seen in 2.0% (1.2-3.0) of the sample; conduct disorder in 6.6% (5.1-8.3) and hyperactivity disorder in 0.7% (0.3-1.4) of the sample²¹.

In our local context on comparing our cutoffs with study conducted in Karachi, Pakistan on 5 to 11 years old children using parent reported

SDQ we found that 47% children were rated as normal, 19% as borderline and 34% as abnormal quite similar to our results. But our results were lower than as compared to 34.40% children found to be in the abnormal category on parent reported SDQ and 35.80% by teacher reported SDQ²³.

We studied literature to look at association of socio demographic factors with SDQ scores such as age and gender. In most studies, similar to our results male gender has been associated with more socio-emotional problems as compared to females²³ contrary to study carried out in Al Ain community where females showed more problems²⁴. On the individual behavioral subset scores girls have showed good prosocial behavior and males had more conduct problems, hyperactivity, peer problems, and higher total difficulty scores quite in accordance with our study results²⁵.

In another study self-reported SDQ was administered on a representative sample of 17-19 years old 1015 senior high school Swedish students. In this study it was found that females had more emotional problems and had higher prosocial rates. Males had more conduct and peer problems¹⁸.

CONCLUSION

Adolescent age group is a critical period of physical, biological and psychological transitions, having special needs and justifying positive, safe and supportive surroundings. It is the time to acquire skills and capabilities that will help in their roles as responsible adults and attribute positively in their future lives endeavors. It is therefore mandated that mental health needs of these adolescents should be addressed with timely, appropriate culturally acceptable, evidence based interventions and strategies. Despite being important subject of study there is lack of research in our local context.

The present study will provide an insight on burden of socio-emotional problems that will help policy makers and concerned stakeholders

to plan appropriate interventions. It is a starting point leading to awareness, discussion and action.

CONFLICT OF INTEREST

This study has no conflict of interest to declare by any author.

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