Psychiatric Wellness among adolescent school going children of Jaipur City

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Abstract— *Mental disorders account for a large proportion of the disease burden in young people in all societies. Detecting these disorders and individual prone to these disorders at earlier ages can facilitate better treatment.* ***Materials and Methods:*** *A cross-sectional observational study was carried out on 400 students as per Modified Mini Screen (MMS) scale to assess the psycho-wellbeing of students. General information regarding socio-demographic data and study pattern was also recorded. These data collected were analyzed and inferred with Chi-square test and ANOVA test of significance.* ***Results:*** *Out of total 400 students, 43 (10.75%) were in red zone of psycho-wellness and 152 (38%) were in orange zone whereas only 205 (51.25%) were in green. Although Psycho-wellness was not found to be associated with age, sex , religion and cast of family but significantly poor mental health was found in children of nuclear family, less educated mothers, working mothers and middle socio economic status of the family. Mental health was significantly poor in children who were single child, who had single parent and or any chronic diseased person in the family* ***Conclusions:*** *About half of students were completely mentally healthy otherwise every alternate student was found to have poor mental health that needs further evaluation for psycho-morbidity. Poor mental health was found in children of middle level educated mothers, working mothers, middle socio economic status of the family and in children who were single child, who had single parent and or any chronic diseased person in the family*

Key words*:* ***Psycho-wellness, MMS, Psycho-morbidity, School Children***

Abbreviations: *MMS (Modified MINI Screen Scale) and PTSD (Post Traumatic Stress Disorder)*

1. Introduction

Psycho-morbidity is one of the common and major emerging diseases all over the world. It is the curse of urbanization and development. Half of the world population is already urbanized and it is estimated that at least 60% of world population will live in megacities till 2030.[1] Global trend of the average annual urban and rural growth in developing countries will be 20.3% and 0.4% respectively by year 2020 and 2025.[2]. In India urban population is more than 30% and is expected to 56% by 2025.[2] There is increase recognition of complex effects of urbanization on health. The nature of modern urbanization is having bad effect on mental health because of over crowing, pollution, stresses, rising level of violence, poor social support etc.[3] Pandav R *et al.*[4] found a lifetime prevalence of 26.5% and 30% of major depression and anxiety disorders, respectively. The rate of serious mental illness was higher for 18 to 25 year olds (7.4 %) in 2008 than for any other age group over 18.[5] In addition, the onset for 50 percent of adult mental health disorders occurs by age 14, and for 75 percent of adults by age 24.[6]

World Health Organization defines adolescents as young people aged 10-19 years. Twenty-one percent of India's population is in age group of 10-19 years[7] Early Indian studies reported prevalence rates of psychiatric disorders among children ranging from 2.6 to 35.6 % in age group of 10-14 years.[7-12] More recently psychiatric morbidity was reported 20.2% (20.64% in males and 19.82% in females) in 10-15 years children in Bhatinda Panjab.[12]

Adolescents are biologically prone to have more mood swings because of the hormonal changes associated with adolescence and coupled with the fact that their brains are still developing[13] Youth is the stage at which most mental disorders begin but often detected in later life, and then it becomes difficult to treat. So, detecting these disorders and individual prone to these disorders at earlier ages can facilitate better treatment.[1] Available data suggest that 20 percent of adolescents i.e. one in five adolescents have a diagnosable mental disorder. [14]

This research was aimed to study the psycho-wellness of adolescent school going adolescents. So this study was conducted on students of 11th and 12th standard from 4 different types of school of Jaipur (Rajasthan) with following objectives:-

1. To find out the prevalence of psycho- morbidity among adolescent school going children.
2. To determine factors associated factors with psycho- morbidity among adolescent school going children

2. Methods

A cross-sectional observational study was carried out on 11th and 12th standard students from 4 different type's schools of Jaipur city after taking clearance from Clinical Trial Screening Committee (CTSC) and Ethical Committee of SMS Medical College, Jaipur.

Sample size was calculated 400 subjects at 20% allowable error with 95% confidence limit assuming 20% prevalence of psycho-morbidity in school going children using Stratified random sampling technique. So for the study purpose 400 students were taken i.e. 100 students from each of four schools.

List of schools of Jaipur city was procured from the education department of State Government. All schools will be divided in into two categories i.e. Government and Private. Then, these were again categorised as Girls School, Boys School and Coeducation school. One school was randomly selected from each of four category i.e. Private Girls School, Private Boys School, Private Coeducation School and Government Coeducation School.

Proforma: Performa has two major parts. Part (1) has general information regarding socio-demographic data and study pattern. Part (2) Performa is Modified Mini Screen (MMS) scale to assess the psycho-wellbeing of students

Modified Mini Screen (MMS) Scale: The Modified Mini Screen (MMS) is a 22-item scale designed to identify persons in need of an assessment in the domains of Mood Disorders, Anxiety Disorders and Psychotic Disorders. (Annexure: Modified Mini Screen (MMS) acceptability and reliability was found satisfactory by many authors.[15,16] It is a 22-item scale designed to identify persons in need of an assessment in the domains of Mood Disorders, Anxiety Disorders and Psychotic Disorders. (Section 'A' for Mood, section 'B' for Anxiety and section 'C' for Psychosis). MMS also interpret psycho-wellness zone as **Green Zone (No Disease Zone) (**Scores between '1' to '5') where no further action is required, **Orange (Borderline Disease) (**Scores between '6' to '8') consider for referring to Psychiatrics and **Red Zone (Yes Disease) (**Scores '9' and above): referred to Psychiatrics for confirmation of diagnosis and treatment

Study was carried out in identified 4 schools of Jaipur city in two phases:-

1st Phase: Principal of the identified school was contacted, details of objectives of study were explained and written inform consent was obtained from the principal along with deciding the date to conduct study in the school.

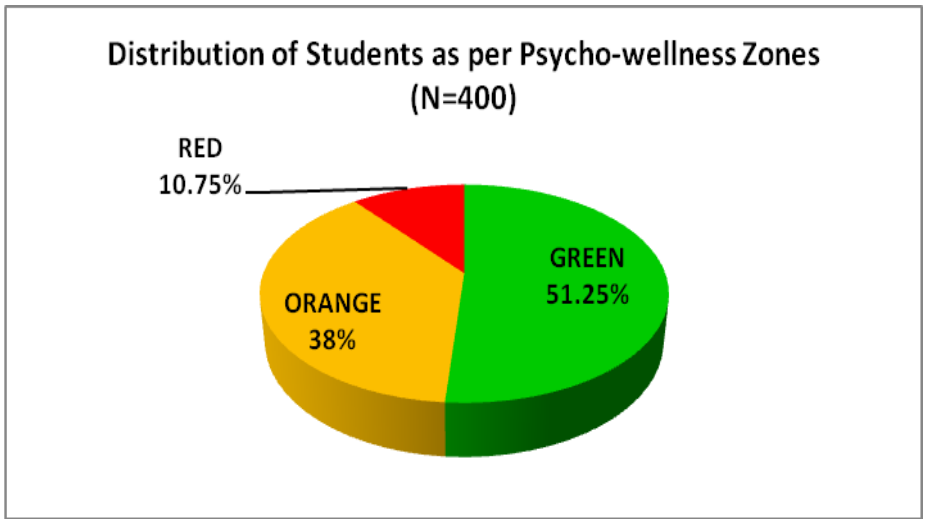
2nd Phase: Students of selected class were explained the details of objectives of study and the operational definition like family, family size etc. After taking written informed consent, predesigned Performa was provided to them. They were given 30 minutes to fill the proforma without interacting each other as in examination hall.

Data thus obtained were entered in MS Excel 2007 worksheet**. T**hese data were classified as per aims and objectives. Significance of difference in proportions was inferred by Chi-square test and significance of difference in means was inferred by ANOVA and Post-hoc tests. For significance 'p value' equal or less than 0.05 was considered significant.

3. Results

Initially Out of these 400 students surveyed, 205 students (51.25%) were in green zone (no disease zone), while 152(38%) students were in orange (borderline) and 43 students (10.75%) were in red zone (Psychiatric disease zone) of psycho-wellness. (Fig 1)

Figure 1



It was also revealed that among the socio-demographic variables studied only type of family was found to be associated with psycho-wellness otherwise age, sex, religion and cast were not found to be associated with psycho-wellness of students. Poor mental health was found significantly more (P=0.001) in children of nuclear and 3rd generation family than joint and extended type of family.(Table 1)

Table 1

Association of Socio-demographic variables with Psycho-wellness of Adolescents (N=400)

S. No.	Socio-demographic Variables	Psycho-wellness Zone			Chi-squire Test	
		Green (N=205)	Orange (N=152)	Red (N=43)	P Value	LS
1	**Age (in Years)**					
	14	2	1	0	5.652 with 8 DF	
	15	66	35	12		
	16	102	87	22	P = 0.686	NS
	17	31	26	9		
	18	4	3	0		

2	**Sex**				
	Males	**116**	**83**	**21**	**0.878 with 2 DF**
	Females	**89**	**69**	**22**	**P = 0.645 NS**
3	**Religion**				
	Hindu	**181**	**128**	**36**	
	Muslims	**12**	**7**	**2**	**8.229 with 8 DF**
	Sikh	**1**	**4**	**0**	**P = 0.411 NS**
	Christian	**6**	**10**	**3**	
	Jainism	**5**	**3**	**2**	
4	**Caste**				
	General	**175**	**125**	**36**	**6.563 with 6 DF**
	OBC	**17**	**14**	**2**	**P = 0.363 NS**
	ST	**8**	**8**	**1**	
	SC	**5**	**5**	**4**	
5	**Type of Family**				
	Nuclear	**114**	**112**	**32**	**21.990 with 6 DF**
	Joint	**80**	**28**	**8**	**P = 0.001 S**
	Extended	**1**	**0**	**0**	
	3rd generation	**10**	**12**	**3**	

When socio economic variables were observed in the study and it was observed that although neither father's education nor occupation was not found to be associated with psycho-wellness but poor mental health was found significantly more (P<0.001) in children of middle to graduate mothers, working mothers that to private or own and middle (Class III & IV) SES class family. (Table 2)

Table 2

Association of Socio-economic variables with Psycho-wellness of Adolescents (N=400)

S. No.	**Socio-economic Variables**	**Psycho-wellness Zone**			**Chi-squire Test**
		Green (N=205)	**Orange (N=152)**	**Red (N=43)**	**P Value LS**
1	**Father's Education**				
	Middle	**6**	**2**	**1**	

	Secondary	**12**	**13**	**2**	**3.794 with 8 DF**
	Graduate	**71**	**57**	**16**	**P = 0.845 NS**
	Post-graduate	**57**	**44**	**14**	
	Professional	**59**	**36**	**10**	
2	**Mother's Education**				
	Illiterate	**9**	**0**	**0**	
	Primary	**12**	**1**	**0**	**33.737 with 10 DF**
	Middle	**15**	**13**	**11**	**P <0.001 S**
	Graduate	**93**	**73**	**22**	
	Post-graduate	**41**	**36**	**6**	
	Professional	**35**	**29**	**4**	
3	**Father's Occupation**				
	Unemployment	**1**	**2**	**0**	
	Own	**62**	**47**	**19**	**10.833 with 8 DF**
	Private	**46**	**48**	**9**	**P = 0.211 NS**
	Public Sector	**6**	**2**	**0**	
	Government	**90**	**53**	**15**	
4	**Mother's Occupation**				
	Housewife	**153**	**109**	**29**	
	Own	**7**	**7**	**1**	**24.662 with 6 DF**
	Private	**20**	**17**	**6**	**P <0.001 S**
	Public/Govt Sector	**25**	**19**	**7**	
5	**Socio-economic Status**				
	Class I	**16**	**1**	**0**	
	Class II	**21**	**1**	**0**	**39.008 with 8 DF**
	Class III	**52**	**48**	**21**	**P <0.001 S**
	Class IV	**70**	**66**	**14**	
	Class V	**46**	**36**	**8**	

Psycho-wellness of these students were also analyzed to relate with any problem in the family of child where it was revealed that poor mental health of children was significantly more in children with single parent or the being the single child in the family. Even mental health was significantly poor in children of family with any chronic illness individual. (Table 3)

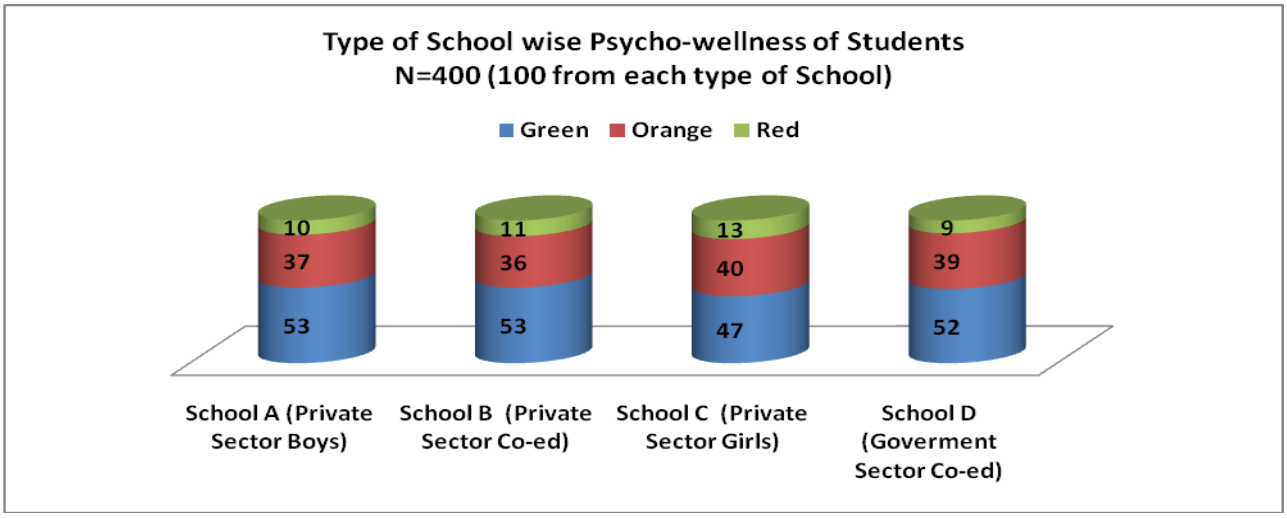
Table 3

Association of type of Problem in Family with Psycho-wellness of Adolescents (N=400)

S. No.	Type of Problem in Family	Psycho-wellness Zone			Chi-squire Test	
		Green (N=205)	Orange (N=152)	Red (N=43)	P Value	LS
1	**Single Child**					
	Yes	4	8	5	8.797 with 2 DF	
	No	201	144	38	P=0.012	S
2	**Single Parent**					
	Yes	0	2	2	8.014 with 2 DF	
	No	205	150	41	P=0.018	S
3	**Alcoholism**					
	Yes	8	3	2	1.333 with 2 DF	
	No	197	149	41	P=0.513	NS
4	**Any Chronic Illness**					
	Yes	0	3	2	7.270 with 2 DF	
	No	205	149	41	P=0.026	S

Simultaneously it was also observed that type of school was not found to be associated with psycho-wellness of the students. (Figure 2)

Figure 2



Chi-square = 1.560 with 6 degrees of freedom; P = 0.955 LS=NS

4. Discussion

This present study observed that 51.25% of students were in green zone otherwise others were either red zone (10.75%) or orange zone (38%) of psycho-wellness. These observations were well comparable to finding of other authors.[7-19] Centres for Disease Control and Prevention[7] reported more than one in four (29 %) high school students in grades 9-12 in year 2012. K. Sebi etall[12] also reported psychiatric illnesses in 26.7%. In this study 10.75% of students fall in red zone, which is similar to a 13.3–18.3% prevalence reported in the literature.[17-19] A survey conducted in year 2008 on adolescents reported about one in 12 (8%) adolescent had a major depressive episode during the past year.[11] . In the 1990s, the National Institute of Medical Health found that up to 7% of adolescents who develop major depressive disorder may commit suicide as young adults.[8] The prevalence rates in Indian studies have been unfortunately widely varied, ranging from 6%[9] to 55.2%.[4]

It was also revealed in this study that among the socio-demographic variables studied age, sex, religion, caste, father's education and occupation were not found to be associated with psycho-wellness of students. Even the psycho-wellness of child was not found to be associated with type of school. But Poor mental health was found significantly more in children of nuclear and 3rd generation, of middle to graduate mothers, working mothers that to private or own and middle (Class III & IV) SES class family. Poor psycho-wellness was found significantly more in children with single parent or the being the single child in the family. Even mental health was significantly poor in children of family with any chronic illness individual. Well comparable findings were observed in other study,[20] where the associated factors were female sex, not staying with spouse due to separation or death of spouse or never being married(i.e. single parent), staying in nuclear families, economic dependence on others and co-morbid physical illnesses, specifically cardiovascular disorders and visual impairment. Extended families, married status and economic independence evidently act as a protective factor against developing depression in vulnerable elderly individuals. Physical disability has been consistently found to be a risk factor for depression in late life as per the other study. [21]

CONCLUSIONS

About half of students were completely mentally healthy otherwise every alternate student was found to have poor mental health that needs further evaluation for psycho-morbidity. Even so that one in

10th child was in red zone of psycho-wellness. Poor mental health was found in children of middle level educated mothers, working mothers, middle socio economic status of the family and in children who were single child, who had single parent and or any chronic diseased person in the family.

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