

## **Status of Depression among School Children & Adolescents in Urban Areas of Tamilnadu**

M.Muhil<sup>1</sup>, Umapathysembian<sup>2</sup>

<sup>1</sup>( Dept of Physiology, Chennai Medical college Hospital & Research centre, The Tamilnadu Dr.MGR medical university, India)

<sup>2</sup>(Dept of Anatomy, Chennai Medical college Hospital & Research centre, The Tamilnadu Dr.MGR medical university, India)

---

**Abstract:** Depression is characterized by the absence of a positive affect and low mood.

**Aim & Objectives:** Screening of school Children and adolescents of age group 10 -17 years for depression by questionnaire survey to know the status of depression in urban areas of Tamilnadu.

**Material & methods:** This observational cross sectional study was carried out in Chennai Medical College Hospital & Research centre with the sample size of 240 school children & adolescents of both sexes in urban school of Tamilnadu by pre-tested self administered "Goldberg Depression Questionnaire" Statistics: Descriptive Statistical analysis & Non parametric test were applied for Analysis.

**Results & conclusion:** The prevalence of depression was 41%. Girls are affected than boys. There was a significant correlation between prevalence of depression and BMI Parental education, the Parental living status in the family whether living together or separated/single.

**Key words:** Adolescents, Depression, Environmental risk, Mental Health, School children

---

### **I. Introduction**

Depression is a state of aversion even to daily activities or showing symptoms like restlessness, disturbed sleep, extreme guilt, difficulties with concentration or decision making. An estimated 20% of the world's adolescents have a mental health or behavioral problem.[1] The World Health Organization stated that depression is the fourth leading cause of worldwide disease in causing more disability than either coronary vascular disease or Cerebrovascular disease. By the year 2020, depression is projected to reach second place ranking of Disability- Adjusted Life Year (DALY) calculated for all ages and sex [2]. Depression is an insidious disease & difficult to recognize in children as they have higher rates of internalization [3] & symptoms are masked by depressive equivalents like hyperactivity aggressiveness and irritability[4,5]. Episodes of childhood & Adolescent depression lays the basis for adult depression which is a risk factor for suicidal ideas, a public health concern among adolescents. So this study aimed to estimate the prevalence of depression and correlate with individual BMI, family History of Depression, parental income, education and parental living status & environment risk factors like distance travelled to school.

### **II. Material methods**

This Observational Cross-Sectional study was conducted by the Dept of Physiology, Chennai Medical College Hospital & Research centre Irungalur, Trichy, with the approval from the Institutional ethical committee & consent from the heads of the respective Institutions. We have started the Study, with the sample size of 240 School children and adolescents belonged to 10-17 years of age, both sexes from four different urban areas of Tamilnadu. Study subjects were explained the purpose of the study and assurance of confidentiality about the result. Cases of Down's syndrome, Cerebral palsy, neuropsychiatric disorders, subjects on drugs for epilepsy and those who do not consent were excluded from the study.

A pre-tested self administered questionnaire (in local language) "Goldberg Depression Questionnaire" which is screening test for depression (Counselling Resource, Mental Health Library Psychological Self-Tests and Quizzes) was given to all participants. The Study was done after explaining the procedure to the study group in both English and Local Language. The Anthropometric measurement, BMI, History of socioeconomic status, risk in environment like daily travelling distance to school, parental education, income and their living status were collected to correlate with the prevalence of Depression. The Goldberg Depression Questionnaire (GDQ) in English and local language was given. To avoid observer's error, few sample questionnaires were cross checked by the Psychologist. The self-administered questionnaire consisted of 18 items with multiple choice answers were given to all the study subjects and scoring was done as per the recommendation. A score of 0—9 was considered as normal, 10—17 as possibly

mildly depression, 18- 21, as Borderline Depression, 22- 35, was considered as Mild- Moderate Depression , 36- 53, as Moderate- Severe Depression 54 and up, as Severely Depressed.

### III. Results & statistical Analysis

After collecting the completely filled “Goldberg Depression Questionnaire from the participants, the scoring was done as per the guidelines given in the Questionnaire. The higher the scoring more severe the depression . The results were analyzed by Descriptive statistics and non parametric test.

Mean±Std.D of age in the study group was 11.3±2.66. In normal subject’s BMI [Mean±Std.D =18.58 ±1.89)] and BMI of the depressed subjects [Mean ±Std.D = 20.19 ±5.72)].

The prevalence of depression based on severity in shown in Table-1 , Effect of Gender, BMI Socioeconomic Status on depression was shown in Table-2 Correlation of prevalence of depression and environmental risk factors were shown in Table -3. There was a gender difference in the prevalence of depression ie., Female participants have shown high prevalence (53%) than males (35%). The commonest type was mild depression (30.4%). There was a positive correlation between the prevalence of depression and high BMI, negative correlation with the parental education and living status. There is no correlation with the family history of depression, parental income & environmental risk like distance travelled daily to Institutions.

**Table 1: Status of Depression among school children & Adolescents in urban areas of Tamilnadu**

Severity Of Depression		Mean±Std of Score	Frequency	Percent
Classification Of Depression	Normal	7.5±3	142	59%
	Mildly Depressed	12±3	73	30.4%
	Borderline Depressed	20±12	11	4.5%
	Moderate To Severe Depression	28±3	12	5%
	Severely Depressed	45±2	2	0.8%
	Total		240	100.0

**Table 2: Effect of Gender, BMI Socioeconomic Status on depression**

Gender	Total(240)	Mean+std	Depressed%(n)	Normal	n-value
Male	123		35%(43)	65%(80)	<0.05
Female	117		53%(62)	47%(55)	<0.05
BMI	Under weight(<18.5)n=46	17.5±5	30%(14)	70%(32)	<0.05
	Normal(18.5-22.9)n=126	21±35	10%(13)	90%(110)	<0.05
	Over weight(23-24.9)n=54	23.5±1	60%(32)	40%(22)	<0.05
	Obese(>25)n=14	26±3	70%(10)	30%( 4)	<0.05

Significant p <0.05\*

**Table3: Factors affecting the prevalence of Depression**

Total(n=240)		Depression (%)	P value
<b>Distance travelled</b>	<5km	53.7%(68)	0.089
	>5km	46%(52)	
<b>Parents’ status</b>	Father & mother living together	14%(25)	<b>0.001*</b>
	Single Parent/separated	58% (35 )	
<b>Parents’ education</b>	Educated	12% (20 )	<b>0.001*</b>
	Illiterate	65% (34 )	
<b>Family Income/month</b>	<5,000	39.7% ( 54)	0.9
	>5,000	37.7% ( 40)	
<b>Family h/o Depression</b>	Yes	66.7%(4)	0.3
	No	25% (59)	

Significant p <0.05\*

#### **IV. Discussion**

The finding of this study revealed that the prevalence of depression in school children & Adolescents of urban areas of Tamilnadu was 41% which was higher than the range described by the Previous studies. [6,7]. The prevalence of mild depression was 30.4% which was the commonest type in the current study and this is comparable to the results of the study done by Asal AR et al in Saudi Arabia [8] where the prevalence rate was 67.3%.

The current study revealed that depression score increases with increase in BMI ,supporting the previous study by Pabst et al [9]. Observations in our studies revealed that prevalence of depression was more in females (53%) than males (35%) among the participants which was contradicting the studies done by Ekundayo et al and Al-Busaidi Z et al [10,7] have found no significant relation between gender and prevalence of depression, while Nolen-Hoeksema reported that the 2:1 (female to male) ratio of depression existed in developed countries and no significant difference in developing countries[11].

Subjects travelling more than 5 km to school are depressed (55.3%) when compared to subjects travelling less than 5 km to school (45.2%). The subjects with single parents are depressed more (58%) because Children from broken homes are more likely to develop emotional problems than those living with both parents. The subjects with family history of depression are 66.7% depressed. [12,13]. It is revealed that there was significant relationship between the prevalence of depression and Risks of family problems like parent's living status, parental education level. This study states that parental income, Family history of depression and the environmental risk factors like daily travelling distance to educational Institution does not contribute to the etiology of depression.

#### **V. Conclusion**

In conclusion, the study has found that there is an increased prevalence of depression among school children and adolescents of urban areas of Tamilnadu. Parents, teachers and caregivers should be educated about the symptoms of depression to aid in early recognition. Counseling and guidance services should be made available for depressed students, to prevent global burden like suicidal incidences.

#### **Acknowledgement**

I thank all the participants and Head of the Institutions for rendered their help to complete the study successfully.

#### **References**

- [1]. Bansal V, Goyal S, Srivastava K. Prevalence of depression in adolescent students. *Ind Psychiatry J*. 2009; 18(1): 43–46.
- [2]. Basker M, Moses PD, Russell S, Russell PS. The psychometric properties of Beck Depression Inventory for adolescent depression in a primary-care paediatric setting in India. *Child Adolesc Psychiatry Ment Health*. 2007;9:8-12
- [3]. Hersov L. Emotional disorder. In: Rutter M, Hersov L, editors. *Child Psychiatry*. (London: Blackwell); 1977 p. 444-9.
- [4]. Glaser K. Masked depression in children and adolescents. *Annu Prog Child Psychiatry Child Dev* 1968; 1 : 345-55.
- [5]. Frommer EA. Depressive illness in childhood. *Br J Psychiatry* 1968; 2 : 117-36.
- [6]. Eskin M, Ertekin K, Harlak H, Dereboy C. Prevalence of and Factors Related to Depression in High School Students. *Turk Psikiyatri Derg* 2008 Winter;19(4):382-9.
- [7]. Ekundayo OJ, Dodson-Stallworth J, Roofe M, Aban IB, Kempf MC, Ehiri JE et al. Prevalence and correlates of depressive symptoms among high school students in Hanover, Jamaica *Scientific World Journal* 2007;7:567-76.
- [8]. Asal AR, Abdel-Fattah MM. Prevalence, symptomatology, and risk factors for depression among high school students in Saudi Arabia. *Neurosciences (Riyadh)* 2007;12(1):8-16.
- [9]. Pabst SR<sup>1</sup>, Negriff S, Dorn LD, Susman EJ, Huang B. Depression and anxiety in adolescent females: the impact of sleep preference and body mass index. *J Adolesc Health*. 2009 Jun;44(6):554-60.
- [10]. Hortacsu N. Parents' Education Levels, Parents' Beliefs, and Child Outcomes. *J Genet Psychol*, 1995;156: 373–383 25.
- [11]. Nolen-Hoeksema S. An interactive model for the emergence of gender differences in adolescence. *Journal of Research in Adolescence* 1994; 4:519-534.
- [12]. Klein D, Lewinsohn PM, Rohde P, Seeley JR, Olino TM. Psychopathology in the adolescent and young adult offspring of a community sample of mothers and fathers with major depression. *Psychol Med* 2005; 35 : 353-65
- [13]. Aaliya Akhtar . A Comparative Study of Depression among Adolescents in Relation to Gender, Domicile and Family Type: with Special Re