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A comparative study of anxiety and depression among adolescents from rural and urban areas

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Abstract

Introduction: Depression and anxiety are commonly reported issues among adolescents populations. These will affect student's interpersonal skills and can impede their ability in their performance due to drop in the neurotransmitter levels. This is leading to suicide and negative thoughts.

Materials and methods: The study is about comparative study of anxiety and depression among adolescents from rural and urban areas in and around Visakhapatnam. A total number of 368 adolescents were selected from high schools and colleges in both rural and urban area of Visakhapatnam, Andhra Pradesh, India.

Results: Anxiety prevails more in urban pupils, 35.41 percent of boys are having anxiety, where as in case of girls it is 29.41 percent. There is no significant ($p>0.05$) association between depression score and type of population (urban/ rural). In respect of depression among adolescents, there is no relation between the type of population and depression.

Conclusion: This study shows that anxiety and depression are more in urban areas than in rural areas. Anxiety and depression are more prevalent in boys than in girls. Treatment is possible by providing help from trained experts.

Keywords: anxiety; depression; adolescents.

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Introduction

Anxiety and depression are the most common maladaptive responses of present day stressful existence. Anxiety is very uneasy feeling experienced by everybody but difficult to define. Depression is a mood disorder. It is not just sadness; it is a qualitative disturbance in mood when patient feels low. Depression may vary in severity and duration. Depression is a temporary reaction to loss, stress, or life challenges in less severe situations. The triad of depression consists of negative perception of self, surroundings and future. The most common symptom of depression, anxiety, ideation suicide

and previous suicide attempts were depressive ideas [1]. Adolescents are generally perceived as a healthy age group, and yet 20% of them, in any given period, experience a mental health problem, most commonly depression or anxiety [2]. Most anxiety and depressive disorders in young adults may be preceded by anxiety or depression in adolescence [3]. Suicide is among the leading cause of death in young people [4]. For some students, the experience of academic stress leads to a sense of distress [5]. Family discord and negative relationship with parents were associated with an increased suicide risk in depressed adolescents [6]. Few studies have been conducted at a global level to assess the prevalence of depression among students. All these studies have been conducted in western countries as well as in other parts of the world. In India, epidemiological studies on depression among adolescent students are scanty. Clearly, depression in this age group is of paramount importance and warrants serious study. Early onset depression among adolescent students interferes with psychological, social, and academic functioning, placing him or her at greater risk for problems such as substance abuse and suicidal behavior [4]. The high rate of depression among students is associated with numerous factors. A variety of factors which include their educational life, social factors like alcohol use, drug addiction, family problems, family history of depression, and staying away from home were associated with depression among students [7]. Studies of such nature will be useful tool to take appropriate steps like counseling for the depressed students [8]. Hence, this study was undertaken to find out the transition in age, gender and background i.e.Rural or urban affecting the anxiety and depression among the adolescents [9].

The objectives are i) To study the association between the anxiety levels and gender. ii) To study the association between the depression levels and gender. iii) To study the association between the anxiety-depression levels and area of the residence.

Materials and methods

Selection of subjects: A total number of 368 adolescents were selected from high schools and colleges in both rural and urban area of Visakhapatnam, Andhra Pradesh, India. Out of which 289 adolescents were selected with rural background from high schools of Desapatrunipalem, and Parawada around Visakhapatnam steel plant area, and the remaining 79 were from different colleges of Visakhapatnam city (urban back ground).

Measurement of anxiety and depression: The hospital anxiety and depression scale (HADS) was originally developed by Zigmond and Snaith (1983) [10], and is used to asses adolescents anxiety and depression which they develop during this transition period. The same scale was given to adolescents of both rural and urban areas. A score of 0-7 is considered to be normal 8-10. Borderline while a score >11 considered to be a clinical condition of anxiety and depression.

The four important advantages with the HAD score are i) Independent of physical symptoms. ii) The extents to which its item robustly measures the identified contents with varying clinical population and situations. iii) Its capability to differentiate anxiety and depression. iv) The case of administration and acceptability of this measure to ill and meek respondents.

The scale is used to know whether there is any influence of change of environment from school to college. For those who are having the scores which indicate anxiety or depression, they were advised counseling and Jacobson's relaxation exercises.

The proforma was given and students were advised to fill up individually. The score was calculated and results tabulated. There was a substantial improvement clinically immediately especially those who were going for examinations. But to assess by same score it needs some more time i.e., a minimum period of one year. This study will help us to know that the maladaptation may be the cause for suicidal tendencies and unable to fare well in examinations when there is a change in environment. The statistical methods applied are SE Error of difference between two means, chi-square and correlation test applied along with MS Office excel and power point to analyze the data and diagrams.

Results and discussion

The mean age of the rural boys is 13.47 ± 0.99 years of SD. While in the comparable group of boys in urban area the mean is 17.87 years ± 0.83 years of SD. A significant difference is scene, because the age group

of rural boys is 10-15 years while in the comparable group of boys in urban area is 16-19 years.

There is a significant (p<0.05) association between anxiety score and type of population (Urban/ Rural). Anxiety score is high among urban as comparative rural (Table 1). Chi-square test value is 7.229.

Table 1: Anxiety score among rural and urban areas.

Anxiety score	*Rural*	*Urban*	*Total*
0-7	129 (44.64)	34 (43.04)	163 (44.29)
8-10	106 (36.68)	20 (25.32)	126 (34.24)
11 & above	54 (18.69)	25 (31.65)	79 (21.47)
Total	289 (100)	79 (100)	368 (100)
Chisqr=7.229; df=2; P value=0.027*			

Abbreviation: * = significant.

There is no significant (p>0.05) association between gender and anxiety score among rural population (Table 2). Chi-square test value is 1.091.

Table 2: Anxiety score among boys and girls of rural areas.

Anxiety score (Rural)	*Boys*	*Girls*	*Total*
0-7	31 (40.79)	98 (46.01)	129 (44.64)
8-10	28 (36.84)	78 (36.62)	106 (36.68)
11 & above	17 (22.37)	37 (17.37)	54 (18.69)
Total	76 (100)	213 (100)	289 (100)

Chisqr=1.091; df=2; P value=0.579

There is no significant (p>0.05) association between gender and anxiety score in urban population (Table 3). Chi-square test value is 0.486.

Table 3: Anxiety score among boys and girls of urban areas.

Anxiety score (Urban)	*Boys*	*Girls*	*Total*
0-7	12 (42.86)	22 (43.14)	34 (43.04)
8-10	6 (21.43)	14 (27.45)	20 (25.32)
11 & above	10 (35.71)	15 (29.41)	25 (31.65)
Total	28 (100)	51 (100)	79 (100)

Chisqr=0.486; df=2; P value=0.784

There is no significant (p>0.05) association between depression score and type of population (urban/ rural) (Table 4). Chi-square test value is 1.083.

Table 4: Depression score in rural and urban population.

Depression score	*Rural*	*Urban*	*Total*
Below 7	156 (53.98)	45 (56.96)	201 (54.62)
8-10	97 (33.56)	22 (27.85)	119 (32.34)
11 & above	36 (12.46)	12 (15.19)	48 (13.04)
Total	289 (100)	79 (100)	368 (100)

Chisqr=1.083; df=2; P value=0.582

There is significant (p<0.05) association between depression score and gender. Depression score is high among girls as comparative boys in rural population (Table 5). Chi-square test value is 12.352.

Table 5: Depression score among boys and girls of rural areas.

Depression score (Rural)	*Boys*	*Girls*	*Total*
Below 7	53 (69.74)	103 (48.36)	156 (53.98)
8-10	20 (26.32)	77 (36.15)	97 (33.56)
11 & above	3 (3.95)	33 (15.49)	36 (12.46)
Total	76 (100)	213 (100)	289 (100)

Chisqr=12.352; df=2; P value=0.0021*

There is no significant (p>0.05) association between depression score and gender among urban population (Table 6). Chi-square test value is 0.299.

Table 6: Depression score among boys and girls of urban areas.

Depression score (Urban)	*Boys*	*Girls*	*Total*
Below 7	15 (53.57)	30 (58.82)	45 (56.96)
8-10	8 (28.57)	14 (27.45)	22 (27.85)
11 & above	5 (17.86)	7 (13.73)	12 (15.19)
Total	28 (100)	51 (100)	79 (100)

Chisqr=0.299; df=2; P value=0.861

Similarly the mean age of the girls in rural area is 13.46 ± 1.20 years of SD. while in the comparable

group of girls in urban area the mean age is 17.49 ± 0.57 years of SD. There is no significant difference in both the groups and reason for the difference in the age group of urban girls is 16-19 years, against the comparable rural sample age is 10-15 years.

Anxiety prevails more in urban pupils, 35.41 percent of boys are having anxiety, where as in case of girls it is 29.41 percent. Where as in case of boys of rural area, it is found to be 22.37 percent of anxiety, which was more than in girls (17.37 %). Age and anxiety scores of rural boys and girls were compared and it is found that there is no relationship between the age and anxiety scores. In order to find out the correlation between age and depression score test is applied to the age of urban boys & girls with their depression score. A negative correlation is found in a similar study carried out by Fisher et al., showing that an average urban boy is experiencing more depression than the girl [11].

A major limitation of the school-based prevention field has been the lack of active control groups [12]. Mood disorders and anxiety were associated with binge eating, anorexia nervosa and bulimia nervosa and in previous studies [13]. As a result, anxiety and depression can predispose patients to the development of cancers, neurodegenerative conditions, and inflammatory diseases [14].

Limitation

The insidence of food addiction, neurodegerative conditions, respiratory disorders, and cancer are not included in this study. Further studies should take these limitations into consideration.

Conclusion

The overall depression in pupils in both the areas is 48 including boys & girls which is 13.04 %. The number of pupils having depression in rural area is 36 with a percentage of 12.45%. The number of pupils having depression in urban area is 12 with 15.19 %. Depression seems to be more in urban pupils than the rural pupils. The sex ratio of rural girls & urban boys having depression is 15.49 % and 17.86 % respectively. On an average urban boys are experiencing more depression than the girls.

Conflicts of interest

The authors declare no conflicts of interest.

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