

Original Article

A Comparative Study of Level of Anxiety and Depression among Adolescents aged between 13-19 Years

Devgan S¹, Sharma A², Mal H³, Gupta S⁴, Padda P⁵, Urvashi⁶

^{1,5}Associate Professor, ⁴Professor & Head, ⁶Senior Resident, Department of Community Medicine, ²Professor & Head, Department of Psychiatry, GGS Medical College & Hospital, Faridkot, ³Professor, University College of Nursing, Faridkot

ABSTRACT:

Background: Mental disorders are among the most burdensome of all classes of disease because of their high prevalence, chronicity, early age of onset and resulting serious impairment and disability. Failure to adjust with transitional changes during adolescence can lead to mental health problems. **Methodology:** The study was conducted in the rural and urban field practice for a period of one year among rural and urban adolescents of 13-19 years of age. Sample size of 1632 was divided into 859 rural and 773 urban adolescents depending upon 1.9:1 ratio of rural to urban adolescent population as per census 2011. **Result:** 100% of rural population have no symptom of trembling, scaring suddenly with no reason, feeling fearful, have to avoid certain things, as they frighten them and feeling tense or keyed up, in past 7 days while 11.5% (89), 1.2% (9), 3.9% (30), 3.4%(26), 15% (117) of urban adolescents respectively experience these symptoms extremely in past 7 days. Majority of the female experience all the anxiety symptoms more than the male counterpart. **Conclusion:** There has been a rise in the prevalence of mental illnesses among adolescents. In the present study, the presence of anxiety as well as depression was found to be highly significant with respect to area and gender.

Key words: Symptom checklist - 80, Anxiety, Depression, Adolescents, Rural & Urban area.

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Corresponding Author: Dr Urvashi, Department of Community Medicine, GGS Medical College & Hospital, Faridkot, Punjab.

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INTRODUCTION

Mental disorders are among the most burdensome of all classes of disease because of their high prevalence, chronicity, early age of onset and resulting serious impairment and disability.¹ Worldwide mental disorders accounted for 12% of all Disability Adjusted Life Years (DALYs) lost in 1998.² They account for 10% of global burden of disease and expected to rise to 15% by 2020.³ Five out of the 10 leading causes of disability worldwide are mental health problems.² Adolescence is a critical period characterized by neurobiological and physical maturation leading to enhanced psychological awareness and higher level social cognitive and emotional responses.⁴ WHO defines adolescence as the period of life between the ages of 10 to 19 years.⁵ Adolescents comprise nearly one-fifth of the total population (21.8%) of India.⁶ Adolescent development depends on complicated transactions among maturational growth patterns in the brain, the psyche and the body mixed with

intellectual, emotional, social and relational experiences within the surrounding cultural context.⁴ Failure to adjust with these transitional changes during adolescence can lead to mental health problems. Apart from these transitional changes, adolescents from low and middle income countries face problems like socioeconomic disparity, poverty, lack of universal social security, lack of uniform educational opportunities, being employed as adolescent labour and crimes against adolescents, which makes them even more vulnerable group. In addition to this, rapid urbanization and modernization have exposed them to changes in society. The resultant breakdown in family structure, excessive or minimal control confuses the adolescent and makes him/her especially vulnerable to maladaptive patterns of thinking and behaviour. All adolescents may not be so fortunate, to get the ideal societal support for this smooth transition. Some develop maladaptive patterns in emotional & behavioural spheres. This augurs ill for the individual's future resulting in depression, anxiety, delinquency and suicides among

other problems.⁷ Of late, there has been a rise in the prevalence of mental illness and maladaptive behaviours among adolescents. WHO estimate shows that up to 20% adolescents have one or more mental or behavioural problems. Studies conducted in different parts of the world show that prevalence of behavioural and emotional problems in adolescent ranges from 16.5% to 40.8%.⁷ As adolescents form one fifth of India's population & the prevalence of the problem in India being in the range of 17.9%⁵ to 20.2%⁸, this means a considerable disease burden on society. Anxiety disorders accounts for 10-20% of children and adolescents group⁹ while unipolar depressive disorder's estimated 1 year prevalence is 4-5% in mid to late adolescence.^{10,11} There are several risk factors for anxiety disorders such as female gender, lower education, low socioeconomic situation, familial anxiety disorders, hypersensitivity of amygdala, introversion personality in early childhood, behavioral inhibition, parental psychopathology, high levels of coldness, protectiveness and authoritarianism in parents and adverse experiences in childhood and traumatic life events¹²⁻¹⁴ On the other hand depression in adolescents is a major risk factor for suicide, the second-to-third leading cause of death in this age group,¹⁵ with more than half of adolescent suicide victims reported to have a depressive disorder at time of death.¹⁶ Depression also leads to serious social and educational impairments,^{17,18} and an increased rate of smoking, substance misuse, and obesity.^{19,20} Nevertheless, depression in adolescents is more often missed than it is in adults, possibly because of the prominence of irritability, mood reactivity, and fluctuating symptoms in adolescents. Depression can also be missed if the primary presenting problems are unexplained physical symptoms, eating disorders, anxiety, refusal to attend school, decline in academic performance, substance misuse and behavioural problems. Thus, to recognise and treat these disorders is important.²¹

METHODOLOGY

The study was conducted in the rural and urban field practice for a period of one year among rural and urban adolescents of 13-19 years of age

SAMPLE SIZE: -

The sample size was decided taking into account the

- Prevalence of psychiatric morbidity.
- Confidence limit of 95%
- Margin of sampling error 10%

Literature review reveals that the prevalence of psychiatric morbidity among adolescents in India is in the range of 17.9%⁵ (Ahmad et al) to 20.2%⁸ (Pir Dutt Bansal & Rajdeep Barman). Since no such figure is available for Faridkot (Punjab), the sample size was calculated by presuming the prevalence of psychiatric morbidity to be 19.05% (mean of reported prevalence in India). The sample size came out to be 1632.

SAMPLING TECHNIQUE:

Stratified random sampling technique was used for sample collection. A list of all the adolescents between 13 - 19 years of age residing in the study area was procured from the survey register of the urban health centre and rural health centre. As per census 2011, the ratio of rural to urban population in district Faridkot is 1.9:1. So for true representation of both the groups the study sample was taken in ratio of 1.9:1. Thus sample was divided into 859 for rural and 773 for urban area. The data was collected by interviewing the adolescents after taking an informed and written consent.

STUDY TOOL:

Two pretested questionnaires was used to assess the psychiatric morbidity in adolescents. These are:

- A self-reporting questionnaire, Symptom Check List 80, to screen adolescents for psychiatric morbidity (Annexure-1).
- A self designed self-report questionnaire to assess effect of socio-environmental factors on psychiatric morbidity (Annexure-2).

The study was conducted after obtaining informed & written consent of the guardians of the participants. An approval from ethical committee of the institute was also being sought. The completed questionnaires was scored according to the guidelines of SCL 80 to identify psychiatric morbidity. To assess the association of socio-environmental factors with psychiatric morbidity in the study population appropriate statistical tests will be used.

RESULTS

Table I - Represents the distribution of the adolescents according to area and presence of anxiety symptoms. Majority of urban adolescents 306(40%) have a little bit of nervousness and shakiness inside while 615(72%) of rural populations have a little bit of this symptom. 100% of rural population have no symptom of trembling, scaring suddenly with no reason, feeling fearful, have to avoid certain things, as they frighten them and feeling tense or keyed up, in past 7 days while 11.5% (89), 1.2% (9), 3.9% (30), 3.4%(26), 15% (117) of urban adolescents respectively experience these symptoms extremely in past 7 days. 26% (203) of urban and 62.2 % (534) of rural adolescents feels a little bit uneasy when people are watching or talking about them. 24.3 % (188) of urban and 19.3 % (166) of rural adolescent experience this symptom moderately. 16.6 % (128) of urban and 74.9 % (643) of rural adolescents feels a little bit uneasy in crowded places. Statistical analysis showed the results were highly significant with $p < 0.001$.

TABLE I: DISTRIBUTION OF STUDY SUBJECTS ACCORDING TO AREA AND PRESENCE OF ANXIETY SYMPTOMS

| Items No. | ATTRIBUTES | Not at all (0) | | A little bit (1) | | Moderately (2) | | Quite a bit (3) | | Extremely (4) | | P-value |
|-----------|--|----------------|----------|------------------|-------------|----------------|-----|-----------------|-----|---------------|-----|-----------------------------------|
| | | U | R | U | R | U | R | U | R | U | R | |
| 2 | Nervousness or shakiness inside | 98 (12.6%) | 0 (0) | 306 (40) | 615 (72) | 184 | 19 | 82 | 116 | 103 | 109 | Chisquare-338.2, df- 4, p <0.001 |
| 15 | Trembling | 398 | 859 | 65 | 0 | 205 | 0 | 16 | 0 | 89 | 0 | Chisquare-541.04, df- 4, p <0.001 |
| 21 | Suddenly scared for no reason | 560 | 859 | 67 | 0 | 78 | 0 | 59 | 0 | 9 | 0 | Chisquare-272.2, df- 4, p <0.001 |
| 31 | Feeling fearful | 392 | 859 | 119 | 0 | 190 | 0 | 42 | 0 | 30 | 0 | Chisquare-552.3, df- 4, p <0.001 |
| 36 | Heart pounding or racing | 335 | 375 | 168 | 322 | 107 | 107 | 65 | 55 | 98 | 0 | Chisquare-145.3, df- 4, p <0.001 |
| 47 | Have to avoid certain things, as they frighten you | 315 | 859 | 132 | 0 | 179 | 0 | 121 | 0 | 26 | 0 | Chisquare-707.5, df- 4, p <0.001 |
| 54 | Feeling tense or keyed up | 170 | 859 | 250 | 0 | 160 | 0 | 76 | 0 | 117 | 0 | Chisquare-1062.7, df- 4, p <0.001 |
| 58 | Feeling uneasy when people are watching or talking about you | 216 | 159 | 203 | 534 | 188 | 166 | 103 | 0 | 63 | 0 | Chisquare-321.04, df- 4, p <0.001 |
| 66 | Feeling uneasy in crowds, such as shopping or at a movie | 421 | 209 | 128 | 643 | 109 | 7 | 36 | 0 | 79 | 0 | Chisquare-617.2, df- 4, p <0.001 |

TABLE II: DISTRIBUTION OF STUDY SUBJECTS ACCORDING TO GENDER AND PRESENCE OF ANXIETY SYMPTOMS

| Items No. | ATTRIBUTES | Not at all (0) | | A little bit (1) | | Moderately (2) | | Quite a bit (3) | | Extremely (4) | | P-value |
|-----------|--|----------------|------|------------------|-----|----------------|-----|-----------------|-----|---------------|-----|------------------------------------|
| | | M | F | M | F | M | F | M | F | M | F | |
| 2 | Nervousness or shakiness inside | 77 | 21 | 190 | 731 | 19 | 184 | 17 | 181 | 53 | 159 | Chi square-225.8, df- 4, p <0.001 |
| 15 | Trembling | 274 | 983 | 16 | 49 | 12 | 193 | 1 | 15 | 53 | 36 | Chi square-107.5, df- 4, p <0.001 |
| 21 | Suddenly scared for no reason | 308 | 1111 | 43 | 24 | 0 | 78 | 4 | 55 | 1 | 8 | Chi square-100.7, df- 4, p <0.001 |
| 31 | Feeling fearful | 253 | 998 | 42 | 77 | 60 | 130 | 0 | 42 | 1 | 29 | Chi square-42.88, df- 4, p <0.001 |
| 36 | Heart pounding or racing | 216 | 494 | 74 | 416 | 13 | 201 | 52 | 68 | 1 | 97 | Chi square-132.3, df- 4, p <0.001 |
| 47 | Have to avoid certain things, as they frighten you | 188 | 986 | 59 | 73 | 61 | 118 | 48 | 73 | 0 | 26 | Chi square-109.3, df- 4, p <0.001 |
| 54 | Feeling tense or keyed up | 98 | 931 | 146 | 104 | 20 | 140 | 40 | 36 | 52 | 65 | Chi square-372.92, df- 4, p <0.001 |
| 58 | Feeling uneasy when people are watching or talking about you | 186 | 189 | 48 | 689 | 73 | 281 | 48 | 55 | 1 | 62 | Chi square-323.4, df- 4, p <0.001 |
| 66 | Feeling uneasy in crowds | 294 | 336 | 45 | 726 | 17 | 99 | 0 | 36 | 0 | 79 | Chi square-379.1, df- 4, p <0.001 |

Table II - Represents the distribution of the adolescents according to gender and presence of anxiety symptoms. Out of total 1632 subjects 356(21.8%) were male and 1276(78.2%) were female. Majority of the female experience all the anxiety symptoms more than the male counterpart. 15%(53)and 15%(53) male experience extreme symptoms of nervousness and trembling while 13 % (159), 3 % (36) of female experience the same symptoms extremely in past 7 days. Only 0.3 % (1) male adolescent experience symptom of suddenly scared for no reason, feeling fearful, heart pounding or racing, feeling uneasy when people are watching or talking about them extremely while similar symptoms were experienced by female adolescents in much more number i.e.0.6%(8), 2.3%(29),7.6%(97),4.9%(62) respectively. Statistical analysis showed the results were highly significant with $p < 0.001$.

Table III - Represents the distribution of the adolescents according to area and presence of symptoms of depression.

100% of rural population have no symptom of thoughts of ending life, feeling blue, worrying too much about things and feeling no interest in things in past 7 days while 11.1% (86), 11% (85), 12.3% (95), 12%(93) of urban adolescents respectively experience these symptoms extremely in past 7 days. Only 1.4 % (12) of

rural adolescents feels a little bit loss of sexual interest and pleasure while 20%, 13.1%, and 12% of urban adolescents have moderate, a little bit and extreme loss of sexual interest and pleasure in past 7 days. 19.1 % (148), 14 % (107), and 18 % (139) of urban adolescents have a little bit, moderate and quite a bit loss of appetite in past 7 days while 21 % (180), 25.6 % (220), and 12.5 % (107) of rural adolescents have a little bit, moderate and quite a bit loss of appetite in past 7 days. 19 % (149) and 15 % (116) of urban adolescent have a little bit and moderate tendency towards crying easily in comparison with 15 % (127) and 12 % (104) rural adolescents. 29 % (245) of rural adolescents have a little bit of feeling of being trapped and caught in comparison with 10.5 % (81) of urban adolescents. 54 % (460) of rural adolescents have a little bit tendency towards blaming themselves for things in comparison with 36 % (278) of urban adolescents. 19 % (164) of rural adolescents have extreme feeling of being lonely in comparison with 15 % (118) of urban adolescents. 56 % (480) of rural adolescents have a little bit feeling of hopeless about the future in comparison with 20 % (153) of urban adolescents. 39 % (332) of rural adolescents have a little bit thought of dying in comparison with 24 % (183) of urban adolescents in the past 7 days. Statistical analysis showed the results were highly significant with $p < 0.001$.

TABLE III: DISTRIBUTION OF STUDY SUBJECTS ACCORDING TO AREA AND PRESENCE OF SYMPTOMS OF DEPRESSION

| Items No. | ATTRIBUTES | Not at all (0) | | A little bit (1) | | Moderately (2) | | Quite a bit (3) | | Extremely (4) | | P- value |
|-----------|-------------------------------------|----------------|-----|------------------|-----|----------------|-----|-----------------|-----|---------------|-----|-------------------------------------|
| | | U | R | U | R | U | R | U | R | U | R | |
| 5 | Loss of sexual interest or pleasure | 422 | 847 | 101 | 12 | 151 | 0 | 6 | 0 | 93 | 0 | Chisquare-459.1, df4, $p < 0.001$ |
| 14 | Thoughts of ending your life | 412 | 859 | 138 | 0 | 61 | 0 | 76 | 0 | 86 | 0 | Chi sq-515.1, df- 4, $p < 0.001$ |
| 17 | Poor appetite | 339 | 352 | 148 | 180 | 107 | 220 | 139 | 107 | 40 | 0 | Chisquare-82.27, df4, $p < 0.001$ |
| 18 | Crying easily | 370 | 519 | 116 | 127 | 149 | 104 | 47 | 0 | 91 | 109 | Chi square-77.7, df- 4, $p < 0.001$ |
| 20 | Feelings of being trapped or caught | 593 | 559 | 81 | 245 | 75 | 0 | 16 | 0 | 8 | 55 | Chisquare-205.6, df4, $p < 0.001$ |
| 24 | Blaming yourself for things | 392 | 347 | 278 | 460 | 58 | 0 | 34 | 52 | 11 | 0 | Chisquare-116.1, df4, $p < 0.001$ |
| 27 | Feeling lonely | 327 | 421 | 108 | 274 | 121 | 0 | 99 | 0 | 118 | 164 | Chisquare-307.7, df4, $p < 0.001$ |
| 28 | Feeling blue | 344 | 859 | 98 | 0 | 143 | 0 | 103 | 0 | 85 | 0 | Chisquare-646.7, df4, $p < 0.001$ |
| 29 | Worrying too much about things | 146 | 859 | 243 | 0 | 152 | 0 | 137 | 0 | 95 | 0 | Chisquare-1131, df-4, $p < 0.001$ |
| 30 | Feeling no interest in things | 192 | 859 | 254 | 0 | 196 | 0 | 38 | 0 | 93 | 0 | Chisquare-1002, df-4, $p < 0.001$ |
| 51 | Feeling hopeless about the future | 244 | 253 | 153 | 480 | 55 | 0 | 155 | 107 | 166 | 0 | Chisquare-396.8, df4, $p < 0.001$ |
| 56 | Thoughts of death or dying | 429 | 420 | 183 | 332 | 63 | 107 | 51 | 0 | 47 | 0 | Chisquare-148.4, df4, $p < 0.001$ |
| 57 | Overeating | 372 | 453 | 228 | 354 | 129 | 52 | 9 | 0 | 35 | 0 | Chisquare-107.7, df4, $p < 0.001$ |

TABLE IV: DISTRIBUTION OF STUDY SUBJECTS ACCORDING TO GENDER AND PRESENCE OF SYMPTOMS OF DEPRESSION

| Items No. | ATTRIBUTES | Not at all (0) | | A little bit (1) | | Moderately (2) | | Quite a bit (3) | | Extremely (4) | | P - Value |
|-----------|-------------------------------------|----------------|------|------------------|-----|----------------|-----|-----------------|-----|---------------|-----|-----------------------------------|
| | | M | F | M | F | M | F | M | F | M | F | |
| 5 | Loss of sexual interest or pleasure | 159 | 1110 | 17 | 96 | 88 | 63 | 0 | 6 | 92 | 1 | Chi square-510.1, df-4, p <0.001 |
| 14 | Thoughts of ending your life | 172 | 1099 | 96 | 42 | 14 | 47 | 2 | 74 | 72 | 14 | Chi square-445.1, df-4, p <0.001 |
| 17 | Poor appetite | 186 | 505 | 82 | 246 | 57 | 270 | 29 | 217 | 2 | 38 | Chi square-37.31, df-4, p <0.001 |
| 18 | Crying easily | 303 | 586 | 38 | 205 | 1 | 252 | 13 | 34 | 1 | 199 | Chi square-206.1, df- 4, p <0.001 |
| 20 | Feelings of being trapped or caught | 291 | 861 | 52 | 274 | 12 | 63 | 1 | 15 | 0 | 63 | Chi square-35.93, df-4, p <0.001 |
| 24 | Blaming yourself for things | 178 | 561 | 152 | 586 | 4 | 54 | 21 | 65 | 1 | 10 | Chi square-11.83, df-4, p <0.001 |
| 27 | Feeling lonely | 206 | 542 | 46 | 336 | 56 | 65 | 43 | 56 | 5 | 277 | Chi square-171.7, df-4, p <0.001 |
| 28 | Feeling blue | 223 | 980 | 36 | 62 | 53 | 90 | 39 | 64 | 5 | 80 | Chi square-68.07, df-4, p <0.001 |
| 29 | Worrying too much about things | 86 | 919 | 118 | 125 | 27 | 125 | 108 | 29 | 17 | 78 | Chi square-468.9, df- 4, p <0.001 |
| 30 | Feeling no interest in things | 44 | 1007 | 140 | 114 | 93 | 103 | 0 | 38 | 79 | 14 | Chi square-1002, df- 4, p <0.001 |
| 51 | Feeling hopeless about the future | 127 | 389 | 52 | 581 | 14 | 41 | 63 | 199 | 100 | 66 | Chi square-215.9, df-4, p <0.001 |
| 56 | Thoughts of death or dying | 163 | 686 | 123 | 392 | 16 | 154 | 48 | 3 | 6 | 41 | Chi square-178.6, df-4, p <0.001 |
| 57 | Overeating | 112 | 713 | 143 | 439 | 96 | 85 | 4 | 5 | 1 | 34 | Chi square-148.9, df-4, p <0.001 |

Table IV - Represents the distribution of the adolescents according to gender and presence of symptoms of depression.

Female experience all the depressive symptoms more than their male counterpart. Majority of female i.e. 16 %(199) and 277 (22%) have extreme tendency of crying easily and feeling lonely while majority of male i.e. 28 %(100) and 26 %(92) have extreme tendency towards feeling hopeless about the future and loss of sexual interest and pleasure. Statistical analysis showed the results were highly significant with $p < 0.001$.

DISCUSSION

There has been a rise in the prevalence of mental illness and maladaptive behaviours among adolescents. WHO estimate shows that up to 20% adolescents have one or more mental or behavioural problems. The prevalence of behavioural and emotional problems in adolescent ranges from 16.5% to 40.8%.⁷ Anxiety disorders accounts for 10-20% of children and adolescents group⁹ while unipolar depressive disorder’s estimated 1 year prevalence is 4–5% in mid to late adolescence. In the present study, it was observed that distribution of study

subjects according to area and presence of anxiety symptoms was found to be highly significant for all the symptoms of anxiety. (Table 1) Banerjee T conducted a study on “Psychiatric morbidity among rural primary school children in West Bengal” and found that 27.1% of adolescents had anxiety.²² Child psychiatric epidemiology has made many important methodological and conceptual advances. One of the few substantive conclusions from Indian work is the higher prevalence of externalizing disorders in boys and internalizing disorders in girls. In the present study, anxiety symptoms were found be present in a greater percentage in girls than in boys. The distribution of study subjects according to gender and presence of anxiety symptoms was found to be highly significant for all the symptoms of anxiety. (Table 2) This is in consonance with the findings of “Prevalence of Anxiety Disorders among Children and Adolescents in Iran: A Systematic Review” in which female gender was identified as an important risk factor for anxiety disorders.²³ However, Hackett et al (1999; 2000) identified male gender as one of the correlates of psychiatric disturbances.²⁴ Unipolar depressive disorder in adolescence is common worldwide but often

unrecognized. In some respects depression in adolescents can be viewed as an early-onset subform of the equivalent adult disorder because of its strong links with recurrence later in life.²⁵ In the present study, the distribution of study subjects according to area and presence of symptoms of depression was found to be highly significant for all the symptoms of Depression. (Table 3) According to the study conducted by Schreiber et al (1998), the prevalence of depression in adolescents was 11.5%.²⁶ Depression is much more common among females than males, with female/male ratio roughly 2:1. The excess of affected girls is seen in epidemiological as well as clinical samples, and is robust across different methods of assessment. Adolescent depression is more closely tied to female hormonal changes than to chronological age, which suggests that depression is directly linked to pubertal changes in hormone–brain relations.²⁷ In the present study, the distribution of study subjects according to gender and presence of symptoms of depression was found to be highly significant for all the symptoms of Depression. (Table 4) This is in consonance with the findings of Thapar *et al* who reported the emergence of female preponderance in adolescents.²⁸

CONCLUSION: There has been a rise in the prevalence of mental illnesses among adolescents. In the present study, the presence of anxiety as well as depression was found to be highly significant with respect to area and gender.

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