

Research Paper

A cross-sectional study on resilience, depression, anxiety, and stress among exam going students

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ABSTRACT

Background: Adolescent age is a stage of several types of changes that affect all the domains such as physical, psychological, and social. At this age, every individual has to face several types of psycho-social stressors including academic pressure and examination stresses. The present study was planned to find two objectives; (i) to assess and compare the level of resilience and the prevalence of psychiatric distress between male and female exam going adolescents, and (ii) to assess the correlation between resilience and psychiatric distress. **Material and Methods:** It was based on a cross-sectional research design. A total of 100 respondents fulfilling inclusion and exclusion criteria were randomly selected from some selected schools in Varanasi district. All the selected respondents were interviewed using a semi-structured questionnaire including socio-demographic proforma, DASS-21, and Brief Resilience Scale. **Results:** Out of a total of 100 respondents 63 were male and the rests were female. The gender of the respondents was found significantly associated ($p < 0.05$) with psychiatric distress such as stress and anxiety. The prevalence of stress and anxiety was found five times higher among females than males. There was a significant difference ($p < 0.05$) found in the resilience, anxiety, and stress between males and females. Resilience was found negatively correlated with stress, anxiety, and depression. And there was a positive correlation found between stress, anxiety, and depression. **Conclusion:** The findings of the present study indicate that exam going adolescents are more prone to the prevalence of psychiatric distress such as stress, anxiety, and depression. Boosting the level of resilience through interventions can prevent them from mental illness.

Keywords: Adolescents, Teenagers, Academic Pressure, Exam Stress, Mental Illness

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Adolescence is considered as a stressful stage of the developmental age of an individual due to physical, psychological, and sexual changes influenced by maturity (Casey et al., 2010). It is a stage of turmoil when they have to face several types of psycho-social and developmental problems. At this age, they need proper emotional, social support, and guidance from their parents and elders. While in the absence of emotional-social support and guidance, they may face many psychological stressors. Sometimes the conditions become more difficult for them.

The examination is an essential part of the academic curriculum. Every student has to face it and try to achieve better marks in it. The examination creates a large amount of pressure on every student when there is a high expectation of their parents present. The examinations are like an attack of a time bomb on the mental health of students (Mohapatra et al., 2012). During the examination days, the level of stress among them gets increased due to the academic pressure and it may affect negatively their physical and psychological development. And they have to suffer several types of psychological disorders such as depression and anxiety, etc. Some previous studies had reported that the prevalence of psychiatric disorders among adolescents lies between 1-51% in developing and underdeveloped countries (Robert et al., 1998). The prevalence of psychiatric disorders among the adolescents such as depression 18.5%, anxiety disorder 24.4%, and stress 20% had been reported in studies conducted in other countries (Sahoo and Khess, 2010). The rise in the prevalence of these disorders among adolescents has increased the risk of suicide, especially among exam going adolescents (Radhakrishnan and Andrade, 2012). Previous studies conducted in other countries had reported that exam going students are prone to a high level of stress that affect their mental health (Abu-Ghazaleh et al, 2011).

Resilience is the ability of an individual to bounce back from an adverse situation. Exam going adolescents have to face several types of psychosocial problems. Sometimes these situations become worse that affects their resilience, further; this failure of resilience may be responsible for the decline in their mental health. Previously done studies in other countries have reported that resilience plays an important role in their mental health, the decline in the resilience among the adolescents may increase the prevalence of psychiatric distress among them (Hiyoshi et al., 2015).

In India, very few studies have been conducted to assess the prevalence of depression, anxiety, stress among exam going adolescents and its association with resilience. Hence, the present study was planned to conduct to obtain the following objectives;

- To assess and compare the prevalence of depression, anxiety, stress, and level of resilience among exam going male and female adolescents.
- And to assess the correlation between resilience, depression, anxiety, and stress among exam going male and female adolescents.

Hypothesis

- There will be no significant difference in the prevalence of depression, anxiety, and stress among exam going male and female adolescents.
- There will be no significant correlation between resilience with depression, anxiety and stress among exam going male and female adolescents.

METHODS AND MATERIALS

A cross-sectional comparative study was carried out in some selected schools where exams are going on in Varanasi district in Uttar Pradesh. It was conducted by the Center of excellence for adolescent's health and development, Sir Sunndarlal Hospital, Varanasi. The study was ethically approved by the ethical committee of Institute of Medical Sciences, Banaras Hindu University, Varanasi. A total of 100 respondents (50 male and 50 female) fulfilling the inclusion and exclusion criteria were randomly selected. This study was conducted in the duration between September 2019 to January 2020.

Inclusion Criteria

- Aged 12-18 years.
- Exam going school and college students.
- Willing to participate in the present study.

Exclusion Criteria

- Not willing to participate.
- Having any physical and mental chronic illness.

Tools

Socio-demographic Questionnaire: A socio-demographic questionnaire will be prepared consisting of age, gender, education, religion, category, family income, family type, residence.

DASS (Depression Anxiety Stress Scale) 21: The DASS-21 was developed by Lovibond and Lovibond (1995). It consists of 21 items (7 items related to stress, 7 items related to anxiety, and 7 items related to depression). Each item is rated by the individual by choosing one of 4 options; from 0 (never) to 3 (almost). Score of each item is multiplied by 2. The severity of stress, anxiety and depression was assessed using the following scoring table;

	Stress	Anxiety	Depression
Normal	0-14	0-9	0-7
Mild	15-18	10-13	8-9
Moderate	19-25	14-20	10-14
Severe	26-33	21-27	15-19
Extremely severe	34+	28+	20+

Brief Resilience Scale: The BRS was developed by Smith et al (2008). It consists of six items. It is a 5-points Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). To obtain the resilience score; the score of the responses of all the six items are added and then total score is divided by 6. The score 1.00-2.99 indicate a low level of resilience, score 3.00-4.30 indicate normal resilience and score 4.31-5.00 indicate a high level of resilience.

Procedure

First, the researcher contacted the principal of the selected school and taken their permission to conduct the present study. Then students who fulfilled the inclusion and exclusion criteria were selected randomly from class 6-12. Each selected individual was interviewed by the researcher using the prepared semi-structured questionnaire. Each interview was completed in approximately 30 minutes. The individual who did not complete the interview and left in the mid, their data was not included in the analysis.

Statistical Analysis

The data collected from the present study was entered in MS Excel to organize and then it exported to trial version of SPSS IBM- 20 for the analysis. The descriptive data was analyzed using frequency, percentage, mean and standard deviation. Pearson's Chi-square test was applied to assess the association between variables and confidence interval at 95%. The difference between study groups was assessed using Student's independent t-test. The correlation between two variables was analyzed using Pearson's Correlation test.

RESULT

In the present study, a total of 100 exam going students of classes between 6 to 12 were randomly selected from a school in Varanasi District. There were 63 males respondents and 37 females in the selected respondents. In the assessment of the psychiatric distress among the respondents, the prevalence of psychiatric distress among males was found as follows; stress (27%), anxiety (31.7%) and depression (44.4%). On the other hand, the prevalence of psychiatric distress among female was found respectively stress (56.8%), anxiety (54.1%) and depression (51.4%). There was a significance association ($p < 0.05$) found between the prevalence of Psychiatric distress (stress and anxiety) and the gender of the respondents. The prevalence of stress and anxiety was found 5 times high among female as compared to male respondents in the present study [Table 1].

Table: 1 Psychiatric Distress among the respondents (N=100)

Variables	Gender		Total F (%)	Chi-square Value	CI at 95%	P Value
	Male F (%)	Female F (%)				
Stress						
Absent	46 (73.0)	16 (43.2)	62 (62)	8.770	0.120-0.663	0.003*
Present	17 (27.0)	21 (56.8)	38 (38)			
Anxiety						
Absent	43 (68.3)	17 (45.9)	60 (60)	4.833	0.171-0.912	0.028*
Present	20 (31.7)	20 (54.1)	40 (40)			
Depression						
Absent	35 (55.6)	18 (48.6)	53 (53)	0.446	0.336-1.710	0.504
Present	28 (44.4)	19 (51.4)	47 (47)			

CI- Confidence Interval, *Significant at 0.05

Table 2 described the severity of the stress, depression, and anxiety found among the respondents. Most of the respondents (62%) were found normal or without stress, along with the rest of them were found with a mild and moderate level of stress. But the proportion of respondents found with a mild (34.8%) and moderate (18.9%) level of stress was found comparatively high among females than males. In the assessment of the severity of anxiety, the majority of the respondents (46%) were found normal, rest of them were found with a mild to severe level of anxiety. The proportion of respondents found with a mild (18.9%), moderate (45.9%) and severe (2.7%) level of anxiety was found high in females as compared to males. Similarly, in the assessment of the severity of depression among the respondents, most of them (58%) were found normal and the rest of them found with a mild to moderate level of depression. The proportion of a mild (37.8%) and moderate (10.8%) level of depression was found high among female respondents

Table: 2 Severity of Psychiatric Distress among the respondents (N=100)

Variables	Male F (%)	Female F (%)	Total F (%)
<u>Stress</u>			
Normal	46 (73.0)	16 (43.2)	62 (62.0)
Mild	15 (23.8)	14 (37.8)	29 (29.0)
Moderate	2 (3.2)	7 (18.9)	9 (9.0)
<u>Anxiety</u>			
Normal	34 (54.0)	12 (32.4)	46 (46.0)
Mild	10 (15.9)	7 (18.9)	17 (17.0)
Moderate	19 (30.2)	17 (45.9)	36 (36.0)
Severe	0 (0.0)	1 (2.7)	1 (1.0)
<u>Depression</u>			
Normal	39 (61.9)	19 (51.4)	58 (58.0)
Mild	16 (25.4)	14 (37.8)	30 (30.0)
Moderate	8 (12.7)	4 (10.8)	12 (12.0)

While in the assessment of the level of the resilience among the respondents in the presents study, in male respondents were found there were 29 (46%) of them found with a normal level of the resilience, and others respectively 31 (49.2%) with a low level of the resilience and 3 (4.8%) with a high level of the resilience. On the other hand in female respondent there were 9 (24.3%) found with a normal level of resilience, and others respectively 26 (70.3%) with a low level of the resilience and 2 (5.2%) with a high level of the resilience [Table 3].

Table: 3 Level of Resilience among the respondents (N=100)

Variables	Male F (%)	Female F (%)
<u>Resilience</u>		
Normal	29 (46.0)	9 (24.3)
Low	31 (49.2)	26 (70.3)
High	3 (4.8)	2 (5.4)

On comparing the prevalence of psychiatric distress and the level of resilience between male and female respondents in the present study, there was a significant difference ($p < 0.05$) found in the level of resilience between males and females. The level of resilience was found comparatively high among male respondents as compared to females. There was also a significant difference ($p < 0.05$) found in the prevalence of stress and anxiety between male and female respondents. The mean value of stress and anxiety was found comparatively high among female respondents [Table 4].

Table: 4 Comparison of Resilience and Psychiatric Distress between male and female respondents (N=100)

Variables	Gender	Mean	SD	t-value	P value
BRS Score	Female	2.80	0.63	2.172	0.032*
	Male	3.07	0.58		
DASS 21 Stress Score	Female	10.92	6.13	2.795	0.006*
	Male	7.63	5.38		
DASS 21 Anxiety Score	Female	8.45	3.49	2.787	0.006*
	Male	6.41	3.57		
DASS 21 Depression Score	Female	8.59	4.25	1.488	0.140
	Male	7.16	4.88		

*Significant at 0.05

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On applying Pearson's bivariate correlation test to assess the correlation between resilience and psychiatric distress among the respondents. The result was found that there was a significant negative correlation ($p < 0.01$) found between the resilience and psychiatric distress among the respondents. On the other hands, there was a significant positive correlation ($p < 0.01$) found between stress, anxiety, and depression [Table 5].

Table 5: Correlation between resilience and psychiatric distress

	BRS Score	DASS 21 Stress Score	DASS 21 Anxiety Score	DASS 21 Depression Score
BRS Score	1	-0.310**	-0.273**	-0.280**
DASS 21 Stress Score	-0.310**	1	0.655**	0.629**
DASS 21 Anxiety Score	-0.273**	0.655**	1	0.662**
DASS 21 Depression Score	-0.280**	0.629**	0.662**	1

** Correlation is significant at 0.01 level (2-tailed)

DISCUSSION

In the present study, there was an attempt to assess and compare the prevalence of depression, anxiety, stress between exam going male and female adolescents. And to assess the correlation between resilience, depression, anxiety, and stress among exam going adolescents. A total of 100 exam going adolescents fulfilling the inclusion and exclusion criteria were randomly selected from school in Varanasi district were interviewed by the researcher. In the present study, the result was found that there was a significant association ($p < 0.05$) between the gender of the respondents and psychiatric distress such as stress and anxiety. The prevalence of stress (CI 0.120-0.663 at 95%) and anxiety (CI 0.171-0.912 at 95%) was found 5 times higher among female respondents than male respondents. These findings are similar to the findings of some previous studies conducted in Delhi and Chandigarh (Kumar et al., 2019 and Sandal et al., 2017). But some other studies had that gender has no significant association with psychiatric distress among exam going adolescents (Biswas R. K., 2020).

The present study indicates that most of the respondents found with psychiatric distress were suffering from a mild level of stress (29%), a moderate level of anxiety (36%), and a mild level of depression (12%). The studies conducted in India and other countries had reported that the severity of depression, anxiety, and stress among adolescents were found between mild to moderate levels (Daya et al., 2018, Kumar et al., 2019, Al-Gelban, et al., 2009). The present study also indicates that there was a significant difference ($p < 0.05$) found in the DASS-21 stress score and DASS-21 anxiety score between male and female respondents. A study conducted by Patel V. and Jain A. (2017) reported that there is a significant difference in the mean anxiety score between male and female adolescents. The mean score had been reported high among females (65.9) as compared to males (61.25). A study conducted by Yaacob et al., (2013) in Malaysia, had reported that the gender of the adolescents affects on the level of stress among them. In the present study, there was no significant difference found between male and female adolescents. In contrast to the present findings, a study conducted by Khesht-Masjedi et al., (2017) had found a significant difference in the prevalence of depression between male and female adolescents.

The findings of the present study indicate that the majority of the exam going adolescents (both male and female) was found with a low level of resilience. And there was a significant difference found ($p < 0.05$) in the level of resilience between male and female respondents. The mean resilience score among male respondents (3.07 ± 0.58) was found higher than

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female respondents (2.80 ± 0.63). Similarly, a study conducted by Prabhu S, G. and Sekhar R. (2017) had reported that there was a significant difference ($p < 0.05$) in the level of resilience between males and females. The level of resilience was found comparatively high among males (3.17 ± 0.56) than females (2.94 ± 0.49).

The present study indicates that there was a significant negative correlation ($p > 0.01$) found between resilience and psychiatric distress such as stress, anxiety, depression among exam going adolescents. Also, there is a significant positive correlation ($p > 0.01$) between stress, anxiety, and depression. It shows that a decline in the level of resilience exam going among adolescents will increase the prevalence of stress, anxiety, and depression among them. A study conducted by Hjemdal et al., (2011) had reported higher resilience scores indicate a decline in the score of stress, anxiety, depression, and obsessive-compulsive disorder among adolescents.

Limitation

There were some limitations of the present study like; the sample size of the present study was small and collected from only some selected schools. It was only a gender-based study. Association of other socio-demographic factors such as age, socioeconomic status, family type, residence, etc. with resilience and psychiatric distress was not assessed.

CONCLUSION

The findings of the present study indicate that the gender of exam going adolescents was found significantly associated with the prevalence of stress, anxiety among them. The severity of stress, anxiety, depression among adolescents found mild to moderate level. The prevalence of stress and anxiety was found 5 times higher among females than males. There was a significant difference found in the level of resilience between males and females. There was a significant negative correlation found between resilience and psychiatric distress such as stress, anxiety, and depression. And there was a positive correlation found between stresses, anxiety, and depression. These results indicate that exam going adolescents are more prone to psychiatric distress. Boosting the level of resilience among adolescents can prevent them from mental illness.

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Conflict of Interest

The author declared no conflict of interest.

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