

Research Article

The cross-sectional study of anxiety levels and ratio of severity of thirteen symptoms of anxiety among medical students

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ABSTRACT

Background: Anxiety is defined as physical, behavioral, social and psychological response to treat self-concept characterized by subjective, consciously perceived feelings of tension. Nowadays anxiety is most commonly found among medical students. This study was conducted to find out the anxiety levels and ratio of severity of thirteen symptoms of anxiety.

Methods: A questionnaire based study was conducted among 178 medical students which tests the level of anxiety and severity of symptoms of anxiety. The questionnaire used was hamilton anxiety rating scale (HAM-A).

Results: Out of 178 students, 80 (44.94%) students scored mild anxiety levels, 63 (35.39%) students scored moderate anxiety levels and 35 (19.66%) students scored severe anxiety levels.

Conclusions: Mild form of anxiety is much more common among medical students and majority of these medical students are females. Moreover, the symptoms of anxiety including tension, anxious mood, depressed mood, insomnia, fear and CVS symptoms appear with moderate severity in majority of medical students while on the other hand some symptoms including general somatic muscular and sensory symptoms, difficulties in concentration and memory, genitor-urinary symptoms, respiratory symptoms, GIT symptoms and other autonomic symptoms appear with least severity among majority of medical students.

Keywords: Anxiety, Psychological, Somatic, Autonomic, Anxious

INTRODUCTION

One of the most common and significant psychological problem faced now-a-days is anxiety.¹ Anxiety is defined as physical, behavioral, social and psychological response to treat a self-concept characterized by subjective, consciously perceived feelings of tension.² Anxiety is simply a response to prolonged and unpredictable threat that can affect cognition.³ Anxiety is a human emotion mainly consisting of variety of psychological and

physical disturbances that appears only when a person judges an event as a severe threat to his ego and self-esteem.⁴ Average level of anxiety is very useful in keeping the people motivated and driven to achieve their goals while high level of anxiety is dangerous for mental and physical health and can interrupt academic performance.⁵ Nowadays anxiety is most commonly found among students therefore about 10 million students at schools and about 15 to 20% university students suffer from test anxiety.⁶ Anxiety was ranked first as presenting complain among the college students seeking counseling

services.⁷ Researchers have been looking at the correlation between anxiety and academic performance for many years.⁸ First-year students are mostly at risk of suffering from anxiety.⁹ Anxiety can directly affect the academic performance of a student. As the academic performance suffers, the anxiety level increases even more.¹⁰ Psychological morbidity among college students clearly shows the neglected public health problem.¹¹ Anxiety is more common among females.¹²

Symptoms of anxiety

Anxiety results in various physical symptoms. Most commonly these symptoms are:¹³

- Anxious mood.
- Tension.
- Fear.
- Insomnia.
- Difficulties in concentration and memory.
- Depressed mood.
- General somatic muscular symptoms stiffness, soreness, neck ache etc.
- General somatic sensory symptoms tinnitus, blurring of vision etc.
- Cardiovascular symptoms like tachycardia, oppression, chest pain etc.
- Respiratory symptoms like throat constriction, dyspnea etc.
- Gastro-intestinal symptoms like nausea, vomiting, diarrhea, abdominal pain etc.
- Genito-urinary symptoms like menstrual irregularities, anorgasmia, dyspareunia etc.
- Other autonomic symptoms like dryness of mouth, sweating, dizziness etc.

METHODS

Participants/respondents

Present study is descriptive and cross-sectional research. Participants in this study are students of Nishtar Medical College Multan, Pakistan and Multan Medical and Dental College Multan, Pakistan. Total 178 undergraduate students from 1st year to final year participated in this research. They are 130 females and 48 males. They were chosen according to random sampling and on the basis of criterion that they had passed at least one college or university exam/test.

Instrument/material

To collect data i.e. assessment of anxiety level and presentation ratio of various symptoms, hamilton anxiety rating scale (HAM-A) questionnaire was used.¹⁴ The HAM-A scale is a 14-item test. Each item has 5 scales from 0-4, on the basis of severity of symptom, to answer the question. It is used to measure the severity and occurrence ratio of anxiety symptoms. A section of

demographic questions was also added. This part including questions that identifies participants’ age, gender and university/college exam marks.

Procedure/data analysis

After obtaining the informed consent, HAM-A questionnaire was explained to the students and data is collected by interviewing each participant individually. After the collection of data the correlation between anxiety level and academic performance is found and the occurrence of severity ratio of symptoms of anxiety i.e. anxious mood, tension, fear, insomnia, difficulties in concentration and memory, depressed mood, general somatic symptoms (muscular and sensory), CVS symptoms, respiratory symptoms, gastro-intestinal symptoms, genito-urinary symptoms and other autonomic symptoms was also found. These analysis procedures were done by SPSS.¹⁶

RESULTS

In our study 80 subjects (44.94%) scored mild anxiety levels, 63 subjects (35.39%) scored moderate anxiety levels and 35 subjects (19.66%) scored severe anxiety levels. This is clearly demonstrated in Table 1. Among the subjects of mild anxiety levels there were 48 females (36.92%) and 32 males (66.66%). Among the subjects of moderate anxiety levels there were 50 females (38.46%) and 13 males (27.08%). Among the subjects of severe anxiety levels there were 32 females (24.61%) and 3 males (6.25%). This is demonstrated in Table 2.

Table 1: Anxiety levels.

Anxiety levels	Frequency	Percentage
Mild	80	44.94
Moderate	63	35.39
Severe	35	19.66
Total	178	100.00

Table 2: Comparison of anxiety levels in males and females.

Gender	Anxiety levels	Frequency	Percentage
Males	Mild	32	66.66
	Moderate	13	27.08
	Severe	03	6.25
Females	Mild	48	36.92
	Moderate	50	38.46
	Severe	32	24.61
Total		178	100.00

Further the presentation ratio (i.e. which symptom presents with which severity) of thirteen symptoms of anxiety was also calculated. These thirteen symptoms are anxious mood, tension, fear, insomnia, difficulties in concentration and memory, depressed mood, general

somatic muscular symptoms, general somatic sensory symptoms, cardiovascular symptoms, respiratory symptoms, gastro-intestinal symptoms, genito-urinary symptoms and other autonomic symptoms. Students were interviewed for above mentioned 13 symptoms by using HAM-A scale and results were plotted in tabulated form. Each symptom has five possible presentations 0,1,2,3 and 4.

For anxious mood five presentations are 0-neither insecure nor irritable, 1-doubtful whether insecure or irritable, 2-unable to relax and worriness about minor details, 3-insecurity and influence on daily work and 4-feeling of dread and influence on daily life. The highest score (51.1% subjects) for this symptom was 2 (unable to relax and worriness about minor details). This is demonstrated in Table 3.

Table 3: Various levels of anxious mood and their presenting frequency.

Anxious mood	Frequency	Percentage
0-Neither insecure nor irritable	15	8.4
1-Doubtful whether insecure or irritable	20	11.2
2-Unable to relax and worriness about minor matters	91	51.1
3-Insecurity and influence on daily work	50	28.1
4-Feeling of dread and influence on daily life	2	1.1
Total	178	100.0

Table 4: Various levels of tension and their presenting frequency.

Tension	Frequency	Percentage
0-No tension	14	7.9
1-Somewhat nervous and tense	55	30.9
2-Condition of unrest without influence on daily life	85	47.7
3-Nervousness with occasional interference with daily work	22	12.3
4-Constant state of restlessness	2	1.1
Total	178	100.0

Table 5: Various levels of fear and their presenting frequency.

Fear	Frequency	Percentage
0-No fear	51	28.7
1-Doubtful about fear	21	11.8
2-Phobic anxiety but able to fight with it	88	49.4
3-Some extent of interference with daily work	17	9.6
4-Constant interference with daily life	1	0.6
Total	178	100.0

Table 6: Various levels of insomnia and their presenting frequency.

Insomnia	Frequency	Percentage
0-Usual sleep duration and depth	42	23.6
1-Slightly reduced but no change in depth	32	18.0
2-Sleep depth is reduced and is more superficial and disturbed	68	38.2
3-Sleep depth and duration markedly changed	32	18.0
4-Sleep depth is shallow but no real sleep	4	2.2
Total	178	100.0

For Tension five presentations are 0-no tension, 1-somewhat nervous and tense, 2-condition of unrest

without influence on daily life, 3-nervousness with occasional interference with daily work and 4-constant state of restlessness. The highest score (47.7% subjects)

for this symptom was 2 (condition of unrest without influence on daily life). This is demonstrated in Table 4.

For Fear five presentations are 0-no fear, 1-doubtful about fear, 2-phobic anxiety but able to fight with it, 3-some extent of interference with daily work and 4-constant interference with daily life. The highest score (49.4% subjects) for this symptom was 2 (phobic anxiety but able to fight with it). This is demonstrated in Table 5.

For Insomnia five presentations are 0-usual sleep duration and depth, 1-slightly reduced but no change in depth, 2-sleep depth is reduced and is more superficial and disturbed, 3-sleep depth and duration markedly

changed and 4-sleep depth is shallow but no real sleep. The highest score (38.2% of subjects) for this symptom was 2 (sleep depth is reduced and is more superficial and disturbed). This is demonstrated in Table 6.

For Difficulties in concentration and memory five presentations are 0-no difficulty in concentration and memory, 1-doubtful about difficulty in concentration and memory, 2-difficult to concentrate on daily routine, 3-pronounced difficulties with concentration and memory and 4-difficulty in decision making and memory. The highest score (33.1% subjects) for this symptom was 2 (difficult to concentrate on daily routine). This is demonstrated in Table 7.

Table 7: Various levels of difficulties in concentration and Memory and their presenting frequency.

Difficulties in Concentration and Memory	Frequency	Percentage
0-No difficulty in concentration and memory	58	32.6
1-Doubtful about difficulty in concentration and memory	44	24.7
2-Difficult to concentrate on daily routine	59	33.1
3-Pronounced difficulties with concentration and memory	15	8.4
4-Difficulty in decision making and memory	2	1.1
Total	178	100.0

For Depressed mood five presentations are 0-not present, 1-doubtful about depressed mood, 2-unpleasant experiences but lacks helplessness, 3-nonverbal signs of depression and hopelessness and 4-hopelessness and non-verbal signs dominate. The highest score (38.8% subjects) for this symptom was 2 (unpleasant experiences but lacks helplessness). This is demonstrated in Table 8.

For general somatic symptoms: Muscular five presentations are 0-no soreness or stiffness in muscles, 1-somewhat soreness or stiffness in muscles, 2-character of pain, 3-muscle pain interferes with daily work and 4-muscle pain is constant and interferes with daily life. The highest score (42.1% of subjects) for this symptom was 0 (no soreness or stiffness in muscles). This is demonstrated in Table 9.

Table 8: Various levels of depressed mood and their presenting frequency.

Depressed mood	Frequency	Percentage
0-Not present	38	21.3
1-Doubtful about depressed mood	42	23.6
2-Unpleasant experiences but lacks helplessness	69	38.8
3-Non-verbal signs of depression and hopelessness	28	15.7
4-Helplessness and non-verbal signs dominate	1	0.6
Total	178	100.0

For general somatic symptoms: Sensory five presentations are 0-not present, 1-doubtful about sensory symptoms, 2-buzzing in ears, visual disturbances anditching sensations in skin, 3-generalized sensory symptoms and interference with daily work and 4-generalized sensory symptoms are present at all the time and interference with daily life. The highest score (59.6% subjects) for this symptom was 0 (not present). This is demonstrated in Table 10. For Cardiovascular Symptoms

five presentations are 0-not present, 1-doubtful about CVS symptoms, 2-CVS symptoms are present but patient can control them, 3-occasional difficulty in controlling CVS symptoms and 4-CVS symptoms are present at all the time and interference with daily life. The highest score (62.4% subjects) for this symptom was 2 (CVS symptoms are present but patient can control them). This is demonstrated in Table 11.

For Respiratory Symptoms five presentations are 0-not present, 1-doubtful about respiratory symptoms, 2-respiratory symptoms are present but patient can control them, 3-occasional difficulty in controlling respiratory

symptoms and 4-respiratory symptoms are present at all the time and interference with daily life. The highest score (62.9% subjects) for this symptom was 0 (not present). This is demonstrated in Table 12.

Table 9: Various levels of general somatic symptoms: muscular and their presenting frequency.

General somatic symptoms: muscular	Frequency	Percentage
0-No soreness or stiffness in muscles	75	42.1
1-Somewhat soreness and stiffness in muscles	30	16.9
2-Character of pain	61	34.3
3-Muscle pain interferes with daily work	11	6.1
4-Muscle pain is constant and interferes with daily life	1	0.6
Total	178	100.0

Table 10: Various levels of General Somatic Symptoms: Sensory and their presenting frequency.

General somatic symptoms: sensory	Frequency	Percentage
0-Not present	106	59.6
1-Doubtful about sensory symptoms	36	20.2
2-Buzzing in ears, visual disturbances and itching sensations in skin	22	12.4
3-Generalized sensory symptoms and interference with daily work	13	7.3
4-Generalized sensory symptoms are present at all the time and inference with daily life	1	0.6
Total	178	100.0

Table 11: Various levels of cardiovascular symptoms and their presenting frequency.

Cardiovascular Symptoms	Frequency	Percentage
0-Not present	21	11.8
1-Doubtful about CVS symptoms	31	17.4
2-CVS symptoms are present but patient can control them	111	62.4
3-Occasional difficulty in controlling CVS symptoms	14	7.9
4-CVS symptoms are present at all the time and inference with daily life	1	0.6
Total	178	100.0

For Gastro-intestinal symptoms five presentations are 0-not present, 1-doubtful about GIT symptoms, 2-GIT symptoms are present but patient can control them, 3-occasional difficulty in controlling GIT symptoms and 4-GIT symptoms are present at all the time and interference with daily life. The highest score (44.9% subjects) for this symptom was 2 (GIT symptoms are present but patient can control them). This is demonstrated in Table 13.

Table 12: Various levels of Respiratory Symptoms and their presenting frequency.

Respiratory symptoms	Frequency	Percentage
0-Not present	112	62.9
1-Doubtful about respiratory symptoms	18	10.1
2-Respiratory symptoms are present but patient can control them	43	24.2
3-Occasional difficulty in controlling respiratory symptoms	5	2.8
4-Respiratory symptoms are present at all the time and inference with daily life	0	0.0
Total	178	100.0

For genito-urinary Symptoms five presentations are 0-not present, 1-doubtful about genito-urinary symptoms, 2-genito-urinary symptoms are present but patient can control them, 3-occasional difficulty in controlling genito-urinary symptoms and 4-genito-urinary symptoms are present at all the time and interference with daily life. The highest score (48.9% of subjects) for this symptom was 2 (genitor-urinary symptoms are present but patient can control them). This is demonstrated in Table 14.

Table 13: Various levels of gastro-intestinal symptoms and their presenting frequency.

Gastro-intestinal symptoms	Frequency	Percentage
0-Not present	52	29.2
1-Doubtful about GIT symptoms	18	10.1
2-GIT symptoms are present but patient can control them	80	44.9
3-Occasional difficulty in controlling GIT symptoms	26	14.6
4-GIT symptoms are present at all the time and inference with daily life	2	1.1
Total	178	100.0

For other autonomic symptoms five presentations are 0-not present, 1-doubtful about autonomic symptoms, 2-one or more autonomic symptoms are present but no interference with daily work, 3-occasionally one or more symptoms are present and interference with daily work and 4-autonomic symptoms are present at all the time and

interference with daily life. The highest score (56.2% subjects) for this symptom was 2 (one or more autonomic symptoms are present but no interference with daily work). This is demonstrated in Table 15.

Table 14: Various levels of genito-urinary symptoms and their presenting frequency.

Genito-urinary symptoms	Frequency	Percentage
0-Not present	87	48.9
1-Doubtful about genito-urinary symptoms	31	17.4
2-Genito-urinary symptoms are present but patient can control them	48	27.0
3-Occasional difficulty in controlling genitor-urinary symptoms	12	6.7
4-Genito-urinary symptoms are present at all the time and inference with daily life	0	0.0
Total	178	100.0

Table 15: Various levels of other autonomic symptoms and their presenting frequency.

Other autonomic symptoms	Frequency	Percentage
0-Not present	33	18.5
1-Doubtful about autonomic symptoms	24	13.5
2-One or more autonomic symptoms are present but no interference with daily work	100	56.2
3-Occasionally one or more symptoms are present and interference with daily work	20	11.2
4-Autonomic symptoms are present at all the time and interference with daily life	1	0.6
Total	178	100.0

DISCUSSION

Anxiety is universal experience which has an important function in the face of danger.¹⁵ Anxiety can be taken as a reliable indicator for assessment of mental illness in the community.¹² Results of this study indicate that the mild form of anxiety is much more common among medical students. This study also found difference between gender and anxiety. On the basis of gender discrimination anxiety is common among females. Female medical students mostly suffer from moderate form of anxiety while male medical students mainly suffer from mild form of anxiety. Therefore it is estimated that anxiety will be the second most common cause of disability worldwide.¹⁶

Further this study was conducted to find out the severity of thirteen symptoms of anxiety. These thirteen symptoms are anxious mood, tension, fear, insomnia, difficulties in concentration and memory, depressed mood, general somatic muscular symptoms, general

somatic sensory symptoms, cardiovascular symptoms, respiratory symptoms, gastro-intestinal symptoms, genito-urinary symptoms and other autonomic symptoms.

The first symptom i.e. anxious mood appeared with moderate severity in the medical students suffering from anxiety. Majority of medical students about 51.1% felt that they were unable to relax during anxiety and there were also worried about minor matters. However at the same time 28.1% medical students suffered from high degree of anxious mood. In such students anxiety had an influence on daily work and they were insecure.

The second symptom i.e. tension generally appeared with moderate severity in about 47.7% medical students. Such students were in condition of unrest during anxiety but there was no influence on daily life. However at the same time tension appeared with mild severity in about 30.9% medical students. They were somewhat nervous and tense during anxiety.

The third symptom i.e. fear appeared with moderate severity in about 49.4% medical students suffering from anxiety. They usually suffered from phobic anxiety but they were able to fight with it. At the same time 28.7% medical students said that there was no presence of fear in them during anxiety.

The fourth symptom i.e. insomnia appeared with varying severity among medical students. About 38.2% medical students suffered from moderate insomnia. Their sleep depth was reduced and sleep was more superficial and disturbed. In about 23.6% medical students there was no appearance of insomnia and their sleep had normal duration and depth. At the same time 18% students suffered from mild insomnia showing that their sleep was slightly reduced but no change in depth.

The fifth symptom i.e. difficulty in concentration and memory showed varying severity among medical students. About 33.1% medical students suffered from moderate difficulty in concentration and memory. Such students felt difficulty to concentrate on daily routine. However at the same time about 32.6% students suffered from no difficulty in concentration and memory and 24.7% students were doubtful about difficulty in concentration and memory.

The sixth symptom i.e. depressed mood appeared with moderate severity in about 38.8% medical students. Such students had unpleasant experiences but lacked helplessness. About 23.6% students suffered from mild depressed mood. They were doubtful about depressed mood. At the same time in about 21.3% students depressed mood was not present during anxiety.

The seventh symptom was actually a group of general somatic muscular symptoms. Majority of students about 42.1% showed no appearance of general somatic muscular symptoms. Such students had no soreness or stiffness in muscles during anxiety. However at the same time there was appearance of moderate general somatic muscular symptoms in about 34.3% students. Such students had a character of pain.

The eighth symptom included the group of general somatic sensory symptoms. Majority of students suffering from anxiety about 59.6% manifested no appearance of general somatic sensory symptoms. However about 20.2% students were doubtful about general somatic sensory symptoms. The ninth symptom included the group of cardiovascular symptoms. The cardiovascular symptoms appeared with moderate severity in majority of students about 62.4%. In such students CVS symptoms were present but they were able to control them.

The tenth symptom was a group of respiratory symptoms. In majority of students about 62.9%, respiratory symptoms were not present. However, in about 24.2% respiratory symptoms were present but they were able to

control them. The eleventh symptom was a group of gastro-intestinal symptoms. In about 44.9% students GIT symptoms were present but they were able to control them and in about 29.2% students GIT symptoms were not present at all.

The twelfth symptom included the group of genito-urinary symptoms. In about 48.9% students genito-urinary symptoms were not present. However in about 27% students genitor-urinary symptoms were present but they were able to control them and 17.4% students were doubtful about genito-urinary symptoms. The thirteenth symptom was a group of other generalized autonomic symptoms. In majority of students about 56.2%, there was evidence of presence of one or more autonomic symptom but there was no interference with daily work.

In this study we have seen that mild to moderate anxiety is seen among medical students. This may be due to stress in present day life. The anxiety can be reduced by eating balanced healthy diet and doing regular exercise.^{17,18}

CONCLUSION

It can easily be concluded from this study that mild form of anxiety is much more common among medical students and majority of these medical students are females. On gender differentiation males mostly suffer from mild anxiety level and females mostly suffer from moderate anxiety level. Moreover, the symptoms of anxiety including tension, anxious mood, depressed mood, insomnia, fear and CVS symptoms appear with moderate severity in majority of medical students while on the other hand some symptoms including general somatic muscular and sensory symptoms, difficulties in concentration and memory, genitor-urinary symptoms, respiratory symptoms, GIT symptoms and other autonomic symptoms appear with least severity among majority of medical students. It seems that there might a relationship between social-economic statuses of students and anxiety levels, and it is recommended as further research.

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REFERENCES

1. Kashani JH, Orvaschel H. Anxiety disorders in mid adolescence: A community sample. *Am J Psychiatr.* 1988;144:931-4.

2. The State-trait anxiety inventory. Mind Garden Florida USA. Available at <http://www.mindgarden.com/145-state-trait-anxiety-inventory-for-adults>. Accessed on 18 January 2016.
3. Davis M, Walker DL, Miles L, Grillon C. Phasic vs sustained fear in rats and humans: role of the extended amygdala in fear vs anxiety. *Neuropsychopharmacology*. 2010;35:105-35.
4. Sarason IG. Anxiety, self-preoccupation and attention. *Anxiety Research*. 1988;1:1-7.
5. Kahan LM. The correlation of test anxiety and academic performance of community college students. *Pro Quest LLC J*. 2008:78.
6. Chapell MS, Blanding ZB, Siverstein ME, Takashi MNB, Newman B, Gubi A, McCain N. Test Anxiety and Academic Performance in Undergraduate and Graduate Students. *J Educ Psycho*. 2005;97(2):268-74.
7. Brackney BE, Karabenick SA. Psychopathology and academic performance: The role of motivation and learning strategies. *J Couns Psychol*. 1995;42:456-65.
8. Luigi M, Francesca D, Maria DS, Eleonora P, Valentina GD, Benedetto V. The role of anxiety symptoms in school performance in a community sample of children and adolescents. *BMC Public Health*. 2007;7(347):490-7.
9. Voelker R. Mounting student depression taxing campus mental health services. *J Am Med Asso*. 2003;289:2055-6.
10. Huberty TJ. Test and performance anxiety. *Principal Leadership*. 2009;10:12-6.
11. Stewart BS, Evans J, Patterson J, Petersen S, Doll H, Balding J, Regis D. The health of students in institutes of higher education: An important and neglected public health problem? *J Public Health Med*. 2000;22(4):492-99.
12. Inam SNB, Saquib A, Alam E. Prevalence of anxiety and depression among medical students of a private university. *J Pak Med Assoc*. 2003;53(2):44-7.
13. Sartorius N, editor. *Anxiety: Psychological and Clinical Perspectives*. Washington Hemisphere/Taylor and Francis: 1991.
14. Hamilton M. The assessment of anxiety states by rating. *Br J Med Psychol*. 1959;32:50-5.
15. Davidson's Principles and Practice of Medicine: A Textbook for Students and Doctors. Sixteenth Edition.
16. Lopez AD, Murray CC. The global burden of disease. *Nature medicine*. 1998;4(11):1241-3.
17. Stewart SM, Betson C, Marshall I. Stress and vulnerability in medical students. *Med Edu*. 1995;29:119-27.
18. Mousa J. The effects of two methods of training on depression and anxiety of university male and female students. *World Appl Sci J*. 2010;9(5):526-30.

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