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Frequency of Anxiety & Its Relation to Age & Socio-economic Status

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Abstract:

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.

Keywords:

Anxiety, Psychological, Somatic, Autonomic, Anxious.

Objective

The objectives of our study are following:

- To determine the frequency of different anxiety levels among the medical students of Nishtar Medical University, Multan.
- To determine the relationship between the different anxiety levels and socio-economic status of medical students.
- To determine the relationship between different levels and various age groups of medical students.

Materials and Methods

A questionnaire based study was conducted among 148 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 148 students, 66 (44.59%) students scored mild anxiety levels, 53 (35.81%) students scored moderate anxiety levels and 29 (19.60%) students scored severe anxiety levels.

Conclusion

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.

1. 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 selfesteem.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

2. Objective of study

- To determine the frequency of different anxiety levels among the medical students of Nishtar Medical University, Multan.
- To determine the relationship between the different anxiety levels and socio-economic status of medical students.
- To determine the relationship between different levels and various age groups of medical students.

3. Material and Methods

Sampling Size:

Present study is descriptive and cross-sectional research. Participants in this study are 3rd year MBBS students of Nishtar Medical University Multan, Pakistan. Total 148 undergraduate students from 3rdyear participated in this research. They are 108 females and 40 males.

They were chosen according to random sampling and based on 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, based on 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 and socioeconomic status was also added. This part including questions that identifies participants' age and gender.

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 were also found. These analysis procedures were done by SPSS 16.

Study Design:

It is a Cross-sectional type of study.

Duration of study:

This study was conducted in 3 months' time from May 27, 2017 to August 25, 2017.

Inclusion criteria:

Only students of MBBS 3rd year of Nishtar Medical University were included.

Students of ages between 19 and 24 years were included.

Students had at least completed their first internal assessment

Exclusion criteria:

Students of BDS and other years were not included.
Students age less than 19 and greater than 24 were not included.
Any student taking anxiolytics or recreational drugs were excluded.
Smoking and coffee addicts were not included.
Students with any physical disability were not included.
Previous supplementary holders were not included.

Data was analyzed using:

- Microsoft Office 2013
- Microsoft Word.
- SPSS 20.

4. Data Analysis

The data was entered and analyzed in a computer program SPSS v20 and reports were generated accordingly.

5. Result

In our study 66 subjects (44.59%) scored mild anxiety levels, 53 subjects (35.81%) scored moderate

anxiety levels and 29 subjects (19.60%) scored severe anxiety levels. This is clearly demonstrated in Table 1 and Chart 1. Among the subjects of mild anxiety levels there were 40 females (37.03%) and 27 males (67.50%). Among the subjects of moderate anxiety levels there were 42 females (38.88%) and 11 males (27.50%). Among the subjects of severe anxiety levels there were 26 females (24.07%) and 3 males (5.00%). This is demonstrated in Table 2 and Chart 2.

Table 1: Anxiety levels

Anxiety levels	Frequency	Percentage
Mild	66	44.59
Moderate	53	35.81
Severe	29	19.60
Total	148	100.00

Figure 1: Anxiety levels

Table 2: Comparison of anxiety levels in males and females

Gender	Anxiety levels	Frequency	Percentage
Males	Mild	27	67.5
	Moderate	11	27.5
	Severe	2	5
Females	Mild	40	37.03
	Moderate	42	38.88
	Severe	26	24.07
Total		148	100

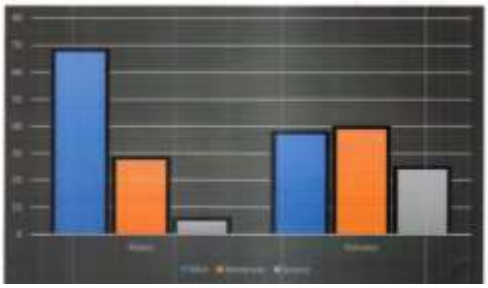

Figure 2: Comparison of anxiety levels in males and females

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

Anxious Mood	Frequency	Percentage
0-Neither insecure nor irritable	12	8.1
1-Doubtful Whether insecure or irritable	17	11.4
2-Unable to relax and wordiness about minor matters	75	50.7
3-Insecurity and influence on daily work	42	28.4
4-Feeling of dread and influence on daily life	2	1.4
Total	148	100.0

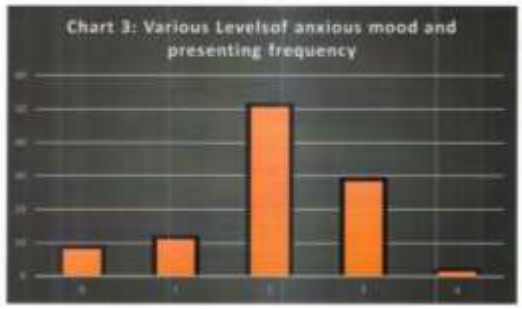

Figure 3: Various levels of anxious mood and their presenting frequency

Table 4: Various levels of tension and their presenting frequency

Tension	Frequency	Percentage
0-No tension	12	8.1
1-Somewhat nervous and tense	46	31.0
2-Condition of unrest without influence on daily life	71	48
3-Nervousness with occasional interference with daily work	17	11.5
4-Constant state of restlessness	2	1.4
Total	148	100.0

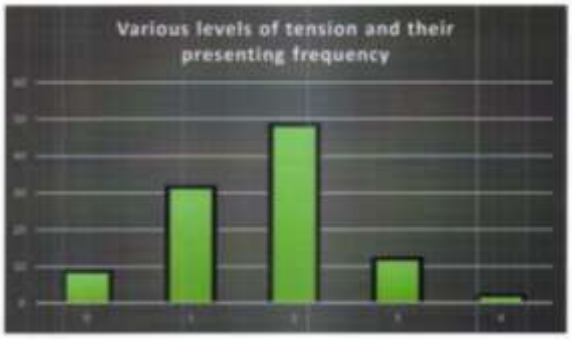

Figure 4: Various levels of tension and their presenting frequency

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Table 5: Various levels of Fear and their presenting frequency

Fear	Frequency	Percentage
0-No fear	73	29
1-Doubtful about fear	17	11.4
2-Phobic anxiety but able to fight with it	73	49.3
3-Some extent of interference with daily work	14	9.5
4-Constant interference with daily life	1	0.7
Total	148	100.0

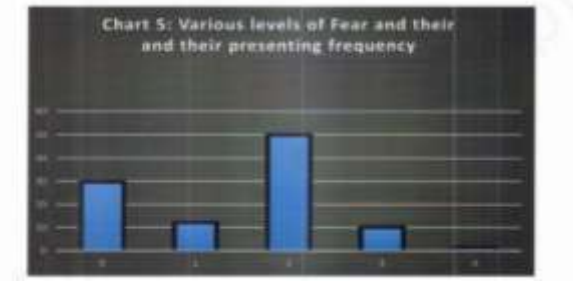

Figure 5: Various levels of Fear and their presenting frequency

Table 6: Various levels of Insomnia and their presenting frequency

0-Usual sleep duration and depth	31	20.7
1-Slightly reduced but no change in depth	27	18.2
2-Sleep depth is reduced and is more superficial and disturbed	56	37.0
3-Sleep depth and duration markedly changed	27	18.2
4-Sleep depth is shallow but no real sleep	3	2
Total	148	100.0

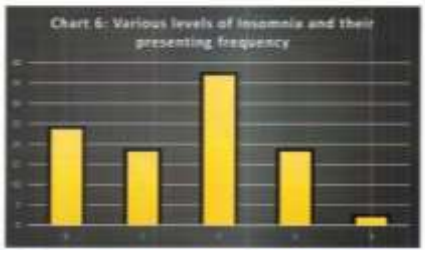

Figure 6: Various levels of Insomnia and their presenting frequency

Table7: Various levels of difficulties in concentration and Memory and their presenting frequency

0-No Difficulty in concentration and memory	68	45.9
1-Doubtful about difficulty in concentration and memory	37	25.0
2-Difficul to concentrate on daily routine	69	46.6
3-Pronounced difficulties with concentration and memory	12	8.1
4-Difficulty in decision making and memory	2	1.4
Total	148	100.0

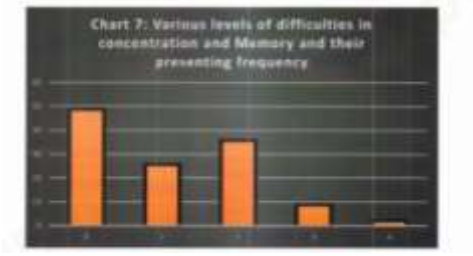

Figure7: Various levels of difficulties in concentration and Memory and their presenting frequency

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

Depressed mood	Frequency	Percentage
0-Not Present	32	21.6
1-Doubtful about depressed mood	35	23.6
2-Unpleasant experiences but lacks helplessness	57	38.5
3-No verbal sings of depression and hopelessness	23	15.5
4-Helplessness and non verbal signs dominate	1	0.7
Total	148	100.0

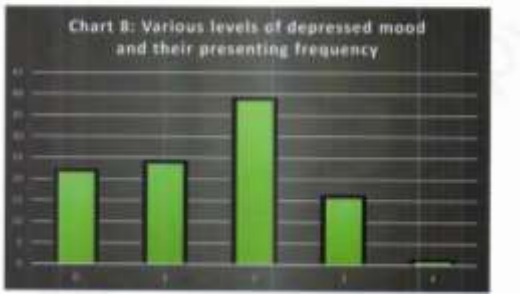

Figure 8: Various levels of depressed mood and their presenting frequency.

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

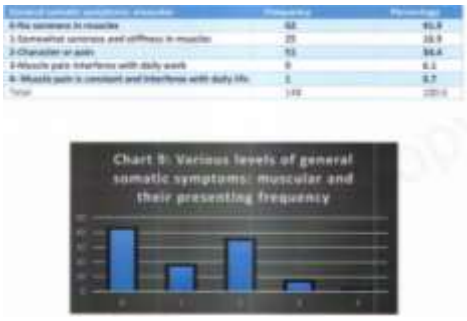

Figure 9: Various levels of general somatic symptoms: muscular and their presenting frequency

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

Figure 10: Various levels of General Somatic symptom: Sensory and their presenting frequency

Table 11: Various levels of cardiovascular symptom: Sensory and their presenting frequency

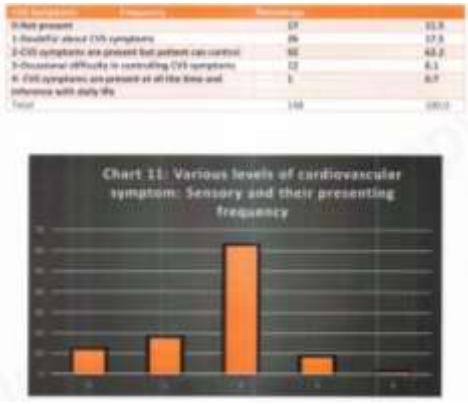

Figure 11: Various levels of cardiovascular symptom: Sensory and their presenting frequency

Table 12: Various levels of Respiratory Symptoms and their presenting Frequency

Figure 12: Various levels of Respiratory Symptoms and their presenting Frequency

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

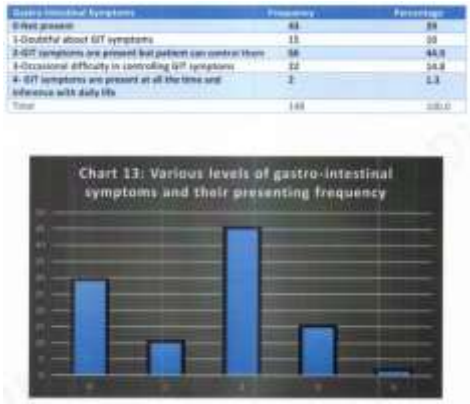

Figure 13: Various levels of gastro-intestinal symptoms and their presenting Frequency

Table 14:Various levels of genitor-urinary symptoms and their presenting Frequency

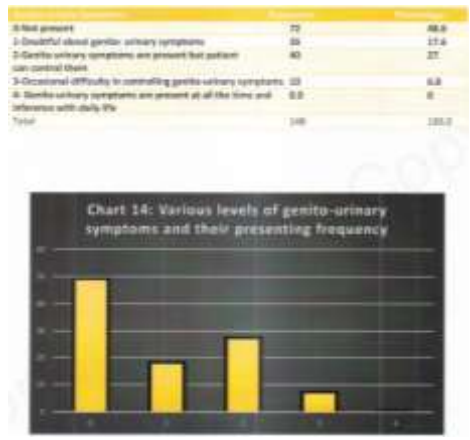

Figure 14:Various levels of genitor-urinary symptoms and their presenting Frequency

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

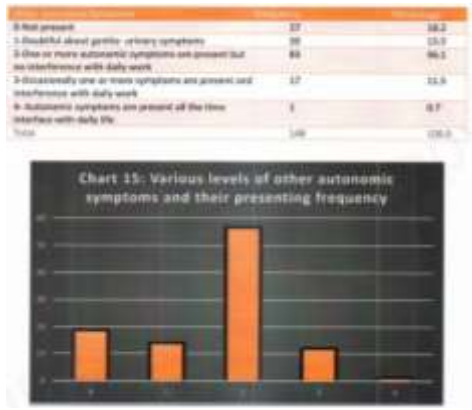

Figure 15:Various levels of other autonomic symptoms and their presenting Frequency

Table 16: Socio-Economic Status

Figure 16: Socio-Economic Status

Table 17: Various Age Groups

Figure 17: Various Age Groups

6. 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. Another study conducted by Liselotte N. et al. among US and Canadian Medical students also found that there is high prevalence of anxiety in females than their male couterparts.16 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.17

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, gastrointestinal 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 50.7% felt that they were unable to relax during anxiety and there were also worried about minor matters. However, at the same time 28.4% 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 48.0% 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 31.9% medical students. They were somewhat nervous and tense during anxiety.

The third symptom i.e. fear appeared with moderate severity in about 49.3% medical students suffering from anxiety. They usually suffered from phobic anxiety but they were able to fight with it. At the same time 29.0% medical students said that there was no presence of fear in them during anxiety. Iqbal MA. et al conducted a similar study among Pakistani medical students and found marked presentation of anxious mood, tension, and fear among medical students suffering from anxiety and there was positive correlation with the frequency of these symptoms and severe anxiety.18

The fourth symptom i.e. insomnia appeared with varying severity among medical students. About 37.0% medical students suffered from moderate insomnia. Their sleep depth was reduced and sleep was more superficial and disturbed. In about 23.7% medical students there was no appearance of insomnia and their sleep had normal duration and depth. At the same time 18.2% students suffered from mild insomnia showing that their sleep was slightly reduced but no change in depth. Timothy A. Brown et al conducted a study on relationship between anxiety and insomnia in USA and found insomnia was consistent with severity of anxiety.19

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 32.4% students suffered from no difficulty in concentration and memory and 25.0% students were doubtful about difficulty in concentration and memory. Gerald M. conducted a research in UK students and found there was a deleterious effect of anxiety on memory, concentration and creative performance.20

The sixth symptom i.e. depressed mood appeared with moderate severity in about 38.5% 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 21.6% students depressed mood was not present during anxiety. A study in Saudi Arabia

showed direct relation with anxiety and depressed mood as depressed mood was consistent in anxiety.21

The seventh symptom was actually a group of general somatic muscular symptoms. Majority of students about 41.9% 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 34.4% 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 59.5% manifested no appearance of general somatic sensory symptoms. However about 20.3% students were doubtful about general somatic sensory symptoms. Joormann and Stober conducted a similar study in Germany and concluded that anxiety has strong correlation with somatic muscular and sensory disturbances.22

The ninth symptom included the group of cardiovascular symptoms. The cardiovascular symptoms appeared with moderate severity in majority of students about 62.2%. In such students CVS symptoms were present but they were able to control them. A study conducted in US by Roose SP. et al concluded the students suffering from severe anxiety have significantly higher rate of serious adverse CVS symptoms such as palpitations tachycardia etc.23

The tenth symptom was a group of respiratory symptoms. In majority of students about 62.9%, respiratory symptoms were not present. However, in about 24.3% respiratory symptoms were present but they were able to control them. A study conducted in Japan sowed that anxiety is strongly associated with increasing respiratory rate because neural centers of anxiety and respiration are placed closed together.24

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 29.0% students GIT symptoms were not present at all. Fosse and Ledyard conducted a study on USA found the growing recognition link between anxiety and Gl tract. They concluded that high prevalence of anxiety was strongly associated with functional Gl symptoms.25

The twelfth symptom included the group of genitourinary symptoms. In about 48.6% students gentio-urinary symptoms were not present. However, in about 27.0% of students genitor-urinary symptoms were present but they were able to control them and 17.6% students were doubtful about genito-urinary symptoms. Alfred A. and Donald R. conducted a study in USA and concluded that urinary symptoms such as frequency, urgency, burning, or retention are most common in women suffering from severe anxiety while in men functional urinary symptoms were relatively infrequent often they indicate problems of genital dysfunction like impotence, penile pain, testicular pain.26

The thirteenth symptom was a group of other generalized autonomic symptoms. In majority of students about 56.1%, there was evidence of presence of one or more autonomic symptom but there was no interference with daily work. Work conducted by Timothy B. in USA demonstrated that there was a positive autonomic arousal among students suffering from severe anxiety.19

There seems to be an inverse effect of socioeconomic status on anxiety levels majority of students from low and middle class suffer from severe anxiety. Nuran B. and Nazan B conducted a research in USA concluding that students emerging from a low socioeconomic class have a higher chance of suffering from severe anxiety.27

As of age there seems to be decreasing trend of anxiety with age this should be evaluated by further research. A research conducted among US and Canadian Medical students revealed that there is an increasing trend of anxiety with age.16

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.

7. 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, genito-urinary symptoms, respiratory symptoms, GIT symptoms and other autonomic symptoms appear with least severity among majority of medical students.

It seems that students of low and middle class suffered more from anxiety and there seems to be an inverse relationship age with anxiety levels. This is recommended for further research.

8. Limitations

1. All students of the class were not included in the survey.
2. Certain points such as eating habits and family history were not asked in the survey which may affect the anxiety levels.
3. The students were not asked about any anxiolytic medications or recreational drugs they were taking.
4. Some students with severe anxiety did not participate in the research at all which may disturb the final findings.
5. Boarder's participation was decreased due to communication problems caused by the jammers.

9. Recommendations

1. Healthy life style should be adopted with plenty of physical activity and balanced diet.
2. Health seminars should be conducted to increase awareness in students.
3. Counseling and behavioral therapy should be available for medical students with a proper schedule and must ensure complete privacy.
4. Posters and brochures should be distributed often to remind people and increase consciousness about mental health issues in students.
5. Adequate informational care should be provided to the parents of students so that they may become more understanding and aware about their children's mental health.

10. 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-anxietyinventory-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 acdemic 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;42:456-465.

[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]. lnam SNB, Saquib A, Alam E. Prevalence of anxiety and depression among medical students of a private university. J Pak Med Assoc. 2003;53(2):447.

[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]. Liselotte N. Dyrbye, Matthew R. Thomas, and Tait D. Shanafelt. Systematic Review of Depression, Anxiety, and Other Indicators of Psychological Distress Among U.S. and Canadian Medical Students. Acad Med. 2006; 81:354-373.

[17]. Lopez AD, Murray CC. The global burden of disease. Nature medicine. 1998;4(ll):1241-3.
[18]. Iqbal MA, Abbas MW, Chaudhary MZ, Iqbal MN, Aleem MS, Javaid R, Ahmed H, Younas T, Maqsood F, Fatima F, Ahmed HH, Mushtaq S. The cross-sectional study of anxiety levels and ratio of severity of thirteen symptoms of anxiety among medical students. Int J Res Med Sci 2016;4:2297-304.
[19]. Timothy A. et al. Structural Relationships Among Dimensions of the DSM-IV Anxiety and Mood Disorders and Dimensions of Negative Affect, Positive Affect, and Autonomic Arousal. Journal of Abnormal Psychology 1998;107(2):179-192
[20]. Gerald M. The effects of anxiety on intellectual performance: When and why are they found? Journal of Research in Personality. 1986; 20(4):385-401.
[21]. SN. Bazmi Inam. Anxiety and Depression among Students of a Medical College in Saudi Arabia. Int J Health Sci (Qassim). 2007 Jul; 1(2): 295-300
[22]. Joormann J, Stober J. Somatic symptoms of generalized anxiety disorder from the DSM-IV: associations with pathological worry and depression symptoms in a nonclinical sample. J Anxiety Disord. 1999;13(5):491-503.
[23]. Roose SP. Depression, anxiety, and the cardiovascular system: the psychiatrist's perspective. J Clin Psychiatry. 2001;62 Suppl 8:19-22.
[24]. Yuri M. et al. Anxiety and Respiration. Respiration and Emotion. 2001;55-64
[25]. Fossey , Lydiard RB. Anxiety and the gastrointestinal system. Psychiatr Med. 1990;8(3):175-86.
[26]. Alfred A. and Donald R. Smith. Psychosomatic Problems in Urology. Calif Med. 1952;76(1): 23-26.
[27]. Nuran B., Nazan B. The prevalence and socio-demographic correlations of depression, anxiety and stress among a group of university students. Soc Psychiatry Psychiatr Epidemiol (2008) 43:667-672.
[28]. Stewart SM, Betson C, Marshall I. Stress and vulnerability in medical students. Med Edu. 1995;29:119-27.
[29]. 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):52630.