



RESEARCH ARTICLE

ASSESSMENT OF ANXIETY, DEPRESSION AND STRESS IN MEDICAL AND DENTAL STUDENTS AND THE FREQUENCY OF USE OF ANXIOLYTICS / ANTIDEPRESSANTS

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ABSTRACT

**Background:** In Medical and Dental Colleges there is significant psychological distress with negative effect on mental health students, which may lead to a high frequency of depression, anxiety and stress in these students. The competitive studies and movement from pre-clinical to clinical stages in medical education with challenges related to trainers, professionals and interaction with patients in combination with the performance of procedures on patients is known to precipitate anxiety, stress. Long term anxiety and stress may cause depression.

**Methodology:** The Medical and Dental Undergraduate Students of from the Jinnah Medical and Dental College were included in this study. A questionnaire, on the basis following DASS Score -21 was filled in by the students. An additional question regarding the use of anxiolytics or selective serotonin reuptake inhibitors (antidepressant) for coping with anxiety, stress and depression was added.

**Results:** Assessment according to DASS-21 in medical and dental undergraduates has shown high scorerrange in 4students (severe) and 2-3 students (extremely severe). These students had high scored but were not aware. None of these student had been prescribed any anxiolytic or antidepressant.

**Conclusion:** Better option for students with high scores should be that they are advised psychotherapy to manage anxiety, stress and to prevent depression.

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INTRODUCTION

The Depression, Anxiety, Stress Scales (DASS) was developed to measure the presence of depression and anxiety and to address and discriminating between anxiety and depression (Lovibond and Lovibond, 1995). The original DASS has 42 items measuring three dimensions of negative emotional states, which are depression (DASS-D), anxiety (DASS-A) and stress/tension (DASS-S). Depression refers to low levels of positive affect, e.g., hopelessness and lack of energy. Anxiety is referred to as a mixture of general distress such as irritability, agitation, difficulty relaxing and impatience. A third factor analyzed was stress. Later, a shorter version of the DASS, the DASS-21, was developed by Lovibond and Lovibond (1995) to reduce administration time and has been used widely in clinical samples to screen for symptoms at different levels of depression, anxiety and stress. DASS-21 is often administered by clinical psychologists by questionnaires or structured clinical interviews (Antony et al., 1998). The DASS-21 is a 21 item self-report questionnaire designed to measure the severity of a range of symptoms common to both

depression and anxiety. In completing the DASS, the individual is required to indicate the presence of a symptom over the previous week. Each item is scored from 0-3. The essential function of this is to assess the severity of the core symptoms of Depression, anxiety and stress. This allows not only a way to measure the severity of a patient's symptoms but a means by which anxious or depressed patient response to treatment can also be measured. (Antony et al., 1998) Anxiety, which is a multisystem response to a perceived threat or danger, reflects a combination of biochemical changes in the body, the patient's personal history and memory, and the social situation (Tian et al., 2013). A large portion of human anxiety is produced by anticipation of future events attesting that stressful transitory events in life with associated uncertainty contribute to distress and anxiety most times. Anxiety especially, if it is chronic and prolonged, exerts adverse effects on career aspiration, work, school performance also leads to states of depression (Tian et al., 2013) increased alcohol consumption (Fernando Gomez, 2004) and attempted suicide (Cassady and Johnson, 2002). Amongst Asian populations continues to pose a concerns over the use of DASS-21 in Asian samples (Julie et al., 2005). Cultural variation may influence the individual's experience and emotional expression. The advantages of revised DASS-18. (Tian et al., 2013) stress scale are twofold. First, the revised

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DASS-18 stress scale possessed fewer items, which resulted in a cleaner factorial structure. Second, it also had a smaller inter-factor correlation. The revised DASS-18 stress scale is potentially more suitable for the Asian populations DASS-21 has been validated in a number of populations such as Hispanic, American, British and Australian. The findings shown that the DASS-21 is psychometrically sound with good reliability and validity. It is clear from the literature review that the DASS-21 is a appropriate tool for measuring depression, anxiety and stress in the Western World Medical and dental undergraduate students have shown to have significant psychological distress with inadvertent negative effect on their mental health, with a high frequency of depression, anxiety, and stress while coping with medical studies (Dyrbye *et al.*, 2006).

Study done by Greenfield *et al.* (2001) on variation in gender in the development of anxiety among medical students from pre-clinical to clinical years of their education was documented in which females had significantly higher number of anxiety dealing with clinical situations (Greenfield *et al.*, 2001) Studies have documented that anxiety as factor that may cause reduced examination performance. Medical school is a time of significant psychological distress with inadvertent negative effect on students mental health, with a high frequency of depression, anxiety, and stress The progress from pre-clinical to clinical years of medical education with challenges in relating to trainers, professionals and patients care and also added to these the performance of procedures on patients is known to precipitate anxiety otherwise termed as clinical anxiety (Abramowitz, 2004). Depression is a serious and often under-diagnosed and undertreated mental health problem in college students which may have fatal consequences. The treatment options include pharmacotherapy including selective serotonin reuptake inhibitors (SSRIs) are the drugs clinically prescribed for depression and obsessive-compulsive disorder (OCD). (Abramowitz, 2004; Marken *et al.*, 2000) or psychotherapy. The aim of this study was to measure the presence of anxiety, stress or depression in medical and dental undergraduates and by support of literature review the recommendation of better option to deal with these symptoms.

## Methodology

Hundred undergraduate students from the Jinnah Medical and Dental College, Karachi were included in this study. A questionnaire on the basis following DASS Score -21 was filled in by the students having the additional information about use of sedative-hypnotics or selective serotonin reuptake inhibitors for anxiety and depression.

- 0 Did not apply to me at all
- 1 Applied to me to some degree, or some of the time
- 2 Applied to me to a considerable degree, or a good part of time
- 3 Applied to me very much, or most of the time

Although the DASS can provide a comparison of symptoms from week to week, it is best given on first presentation and again after a period of time has lapsed long enough for the chosen treatment to have effect. In the case of antidepressant medication, the second administration should be after 2-4 week period individual has commenced taking the medication. This period is long enough for most antidepressants to be expected to show some change in the patient.

## Scoring the DASS

The scale to which each item belongs is indicated by the letters D (Depression), A (Anxiety) and S (Stress). For each scale (D, A & S) sum the scores for identified items. Because the DASS-21 is a shortform version of the DASS (the long form has 42 items), the final score of each item in groups (Depression, Anxiety and Stress)

## Statistical Analysis

**Design:** Cross – sectional study. (October- December 2016)

**Sample:** Random sampling

## RESULTS

Out of a total of 100 questioners filled by MBBS and BDS students, the severity of Depression scores were mild n=12, moderate n= 7, severe N=4, extremely severe (n = 3). Anxiety score were mild(n= 15), moderate(n=7), (severe =4) and extremely severe (n = 2). Stress was, mild(n= 16), moderate (n= 5) , severe (n = 4), extremely severe (n = 3). (Table 1)

**Table 1. DASS-21 score**

### Undergraduate Students of Medicine and Dentistry

Severity	Depression (N=100)	Anxiety (N=100)	Stress (N=100)
Normal	(n =80) 0-9	(n =77) 0-7	(n =76) 0-14
Mild	(n= 10) 10-13	(n=10) 8-9	(n=12) 15-18
Moderate	(n=5) 14-20	(n=7) 10-14	(n=5) 19-25
Severe	(n=4) 21-27	(n=4) 15-19	(n=4) 26-33
Extremely Severe	(n =2) 28+	(n =2) 30+	(n = 3) 34+

Use of Anxiolytics/ Antidepressants: yes  No

## DISCUSSION

The DASS -21 due to psychometric evaluation are suitable for use in an occupational health care setting and in institutions. The DASS can be helpful in ruling out anxiety disorder and depression in employees or students which can lead to mental health problems (Nieuwenhuijsen *et al.*, 2003). High prevalence of depressive symptoms was shown in study done on Egyptian Students need for a student counseling service for mental health support specially for low affluence students (Ahmed K. Ibrahim *et al.*, 2012) In a study by Young CB *et al.* 2010 done on undergraduate students at the University of California San Diego (UCSD) Compared to Caucasians, Asian-Americans exhibited significantly elevated levels of depression. Depression in females was more significant (Young *et al.*, 2010) Anxiety may affect the clinical performance. A cross-sectional study by Obarisiagbon, *et al.* 2003 was to determine the factors provoking clinical anxiety in the medical and dental students from the trainers and students perspectives (Obarisiagbon *et al.*, 2013). Patients with OCD or depression on SSRI therapy, shown a gradual decline in their memory function (Sayyah *et al.*, 2016). These symptoms develop within the first 8 weeks of initiation of drug treatment with SSRIs

(Sayyah *et al.*, 2016). Antidepressants such as the selective serotonin reuptake inhibitors (SSRIs) are widely used to treat major depression. Although they have reasonable efficacy they also produce adverse effects, of which the best known include headache, changes in sleep pattern and gastrointestinal dysfunction. (British Medical Association, 2007; Price *et al.*, 2009) Worsened anxiety and agitation may be seen in the first few days of treatment. Other subjective side-effects are not usually considered by healthcare professionals, yet 'blunting of emotions' is mentioned by some people who take SSRIs, in clinic. They report that, although they feel less emotional pain than before, they also experience a restricted range of other emotions that are a normal part of everyday life. It is unclear whether these experiences relate to the mode of action of the antidepressants. Although some research reports have emerged that may be relevant to such complaints (Oleshansky and Labbate, 1906) Memory impairments can be due to depression itself, memory loss appears to be more likely due to SSRI therapy rather than depression symptoms (Joss *et al.*, 2003). Serretti *et al.* showed that using SSRIs even in healthy individuals leads to cognitive impairment (Serretti *et al.*, 2010). Also the MMSE (Mini Mental State Examination) scores done on depressed patients showed a gradual decline over the consecutive weeks after taking SSRI drugs. It seems that the use of SSRIs in patients with depression or OCD, can cause cognitive dysfunction in the acute phase of treatment (Hoehn-Saric *et al.*, 1990). The participant characteristics (disorder, recruitment method, target group); use of anxiolytic or antidepressant (SSRI) and the characteristics of the psychotherapy (format, number of sessions, and type of psycho-therapy). (Cuijpers *et al.*, 2013) Despite the limitations, we can conclude that pharmacotherapy and psychotherapy have comparable effects in several depressive and anxiety disorders. Psychotherapy having the benefits of negligible adverse effects.

## Conclusion

Undergraduate medical students group have showed a score indicative of severe anxiety, stress and depression was significant. As the literature search it is recommendable for a giving such students psychotherapy by well trained clinical psychologist due to similar outcome and chances of less serious adverse-effects than pharmacotherapy.

## Recommendation

Those scoring high did not have the knowledge or prior diagnosis of anxiety or depression such students should be advised psychotherapy and follow-up with a clinical psychologist.

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