

# PSYCHOLOGICAL DISTRESS AND TENSION-TYPE HEADACHE AMONG HEALTH PROFESSIONAL SENIOR STUDENTS IN A HISTORICALLY BLACK UNIVERSITY IN SOUTH AFRICA.

**ABSTRACT:** *Studies in well-defined populations contribute to the body of evidence that the psychosocial aspects of people's environment can have a substantial effect on their physical health. Senior students in health professional education programs were interviewed using structured instruments to assess the prevalence of psychological distress and tension-type headaches in a young adult university population. Almost 70% of the study sample was either at risk of becoming distressed, or already distressed with somatic or depressive symptoms. About two-thirds of the students reported symptoms of either tension-type headache or other types of headache, while over 30% of all the students complained of tension-type headache. Almost 20% of the students who reported symptoms of tension-type headache were also distressed, while another 47% were at risk of being distressed. The possible impact on the academic performance of the students and their future role as health care professionals is discussed.*

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## INTRODUCTION

Since the introduction of a democratically elected government in South Africa in 1994, there have been different attempts at redressing the unequal distribution of health care. One of the attempts was to increase the number of health care professionals from historically disadvantaged populations in order to adequately address the health needs in previously disadvantaged communities. Therefore, there has been an appreciable increase in the number of students from such communities admitted into tertiary academic programs in the area of health care. However, given the impoverished background of many black South African students, Bowerbank (1990) predicted that black students may be disadvantaged in their ability to cope with the academic programs.

The University of the Western Cape (UWC) is committed to the development of historically disadvantaged communities in South Africa. Therefore the students admitted into the health professional education programs are mostly

from such communities. The programs promote an interdisciplinary approach to health care at primary, secondary and tertiary levels. The programs include 4-year honours degree programs in Dietetics, Human Ecology, Human Movement Studies, Nursing, Occupational Therapy, Pharmacy, Physiotherapy, Social Work, and a 5 1/2-year program in Dentistry.

Students in one of the health professional education programs at UWC identified various factors that contributed to stress during their training (Nicholas and Amosun, 1997). These students come into close contact with serious illness and death (Amosun, 2001), in addition to meeting the demands of their curricula (Simuzingili and Amosun, 1998). The factors causing stress vary with the stage of the educational program, causing moderate to high levels of emotional exhaustion among senior students (Amosun and Dantile, 1996). In addition, some of the choices in lifestyle behaviours made by the students in the health professional

education programs could also add to the stress (Nkandu and Amosun, 1997). Some of the choices included the use of tobacco products, as well as sexual practices.

All these factors can result in a general decrease in the physical health and emotional wellbeing of students (Lee and Graham, 2001; Pickering, 2001). Stress is known to influence the development and symptoms of various physical illnesses such as hypertension, tension headache, sleeping disorders, backache, and the common

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cold (Allen et al. 1999; Solomon, 1997). Sutherland and Cooper (1995) defined stress as a psychological and physical response of the body that occurs whenever individuals must adapt to changing conditions, whether those conditions are real or perceived. Distress is stress due to an excess of adaptive demands placed on the body that may lead to bodily and mental damage. Thus distress may be defined as damaging, excessive or pathogenic stress.

Studies in well-defined populations are useful in identifying the frequency and severity of factors that impact on specified populations. Two studies have already shown headaches to be a concern among students at UWC (Nicholas and Amosun, 1997; Nicholas, 1997). Headache disorders constitute a public-health problem of enormous proportions, with an impact on both the individual affected and society. Bigal et al. (2001) confirmed the profound impact of tension headache and migraine on the work productivity, quality of life, and academic performance of university students. The Distress and Risk Assessment Method (DRAM) is a simple and straightforward first-stage psychological assessment method to either confirm a clinical impression of distress, or to alert the appropriate medical personnel that a more comprehensive psychological or psycho-physiological assessment is indicated (Main et al., 1992). DRAM comprises the Modified Somatic Perception Questionnaire (MSPQ), which assesses somatic awareness in distress, and the Modified Zung Questionnaire which assesses depressive symptoms in distress. Similarly, the International Headache Society (1988) developed a set of subjective characteristics to confirm the diagnosis of tension headache, and differentiate it from other types of headache such as migraine.

Therefore, the aims of this study were to:

(i) Determine the prevalence of psychological distress among senior students in health professional education programs at the University of the Western Cape,

(ii) Determine the prevalence of tension-type headache among the senior students.

#### METHODOLOGY

The study was conducted among senior students in the last 2 years of the health-related education programs in Physiotherapy, Occupational Therapy, Dietetics, Human Ecology, Social Work, Human Movement Studies, Pharmacy and Dentistry. Students in the Nursing program were excluded because the Head of the Department did not give her consent for their participation in the study.

A self-administered questionnaire was administered at the beginning of the second semester (July-August, 2000) after students returned from a three-week vacation. The first part of the questionnaire sought demographic information about the students. The second part of the questionnaire comprised the Distress and Risk Assessment Instrument, made up of the Modified Somatic Perception Questionnaire (MSPQ) and the Modified Zung Depression Questionnaire (MZDQ). The MSPQ was a 22-item questionnaire containing a list of brief phrases describing physical symptoms of distress, and respondents were expected to indicate if they were experiencing such feelings. Each item had four response alternatives, namely 'not at all' (given a score of 0), 'a little' (given a score of 1), 'a great deal' (given a score of 2), and 'extremely often' (given a score of 3). Of the 22 items, 13 items were related to symptoms of stress and were scored. The remaining questions were leading questions, which were not scored. Therefore the possible maximum score was 39 and the minimum score was 0.

The MZDQ is a 23-item instrument containing a list of negative and positive statements expressing the emotions experienced by the respondents. The respondents were required to rate the frequency at which they experienced the emotions, either rarely, sometimes, moderate period of time, or most of the time. For each positive statement, a respondent who indicated 'rarely' scored 3, but scored 0 if 'most of the time' was indicated. For each negative statement, 'rarely' was scored 0, and 'most of the

time' was scored as 3. The higher the frequencies of negative emotions, the higher the score for the MZDQ. The maximum score obtainable was 69, and the minimum was zero.

Based on the scores obtained, the students were put into four clusters, namely Normal (N), At Risk (R), Distressed-Somatic (DS), and Distressed-Depressive (DD). Type N students showed no evidence of psychological distress or abnormal illness behaviour ( $MZDQ < 17$ ), and scores for type R students were  $MZDQ 17-33$  and  $MSPQ < 12$ . The scores for type DD students were  $MZDQ > 33$ , while scores for type DS students were  $MZDQ 17-33$  and  $MSPQ > 12$ .

The third part of the instrument consisted of the subjective characteristics of migraine and tension-type headache according to the criteria of the International Headache Society (1988). Individuals with tension-type headache often describe the pain they experience as 'a feeling of a tight band around the head, or pressure-squeezing discomfort around the head'. The pain is often bilaterally located, of mild or moderate intensity. The respondents who complained about headache completed this section. The Research and Fellowship Committee of the University of the Western Cape approved the study protocol before implementation. Similarly, permission was sought from the Heads of the participating health professional education programs.

#### RESULTS

Table 1 shows the characteristics of the 320 students who volunteered to take part in the study, out of 447 students who qualified to take part. Using the recommended cut off scores on MSPQ and MZPQ, about 23% of the students were already distressed with either somatic or depressive symptoms, while another 46% were at risk. Sixty-eight percent of the students complained of either tension headache or other types of headache. Among those who complained of tension headache ( $n=100$ ), 18% were already distressed with either somatic or depressive symptoms, while another 47% were at risk (Table 2). In addition, a higher proportion of female students who complained of tension-type head-

**Table 1: Characteristics of the students**

Features	Frequency (N=320)
Gender:	
Males	91
Females	226
Unknown	3
Mean Age (years):	
Males	23.5 (s.d.=3.7; range=18-40)
Females	23.6 (s.d.=4.0; range=19-42)
Range	19-42
Prevalence of headache (n=218):	
Tension headache	100
Other types (including migraine)	118
Classification of distress:	
Normal	98
At risk	148
Distressed with somatic symptoms	38
Distressed with depressive symptoms	36

**Table 2: Students with distress and tension headache (n=100)**

	N	Prevalence of distress		
		R	DS	DD
Prevalence of tension headache	35	47	7	11
Gender:				
Males	11	9	0	3
Females	24	38	7	8

N = Normal, no psychological distress

R = At risk

DS = Distressed with somatic symptoms

DD = Distressed with depressive symptoms

ache were already distressed with either somatic or depressive symptoms. However, looking at the overall study sample, 5.6% of the 320 students were distressed with either somatic or depressive symptoms and complained of tension-type headache, while almost 15% complained of tension-type headache and were at risk of being distressed.

## DISCUSSION

The main aim of this study was to determine the prevalence of psychological distress and tension-type headache among senior students in health professional education programs at the University of the Western Cape. Students in health care education programs face various challenges like other students, often, students face the challenge of striking a healthy balance between their

personal and academic lives. Many times, students place greater priority on one to the detriment of the other, leading to imbalanced lifestyles which contribute to physical and emotional exhaustion and depression. Studies to evaluate levels of distress among students in health care education programs tend to concentrate mainly on medical students (Raj et al., 2000; Hudd et al., 2000).

The demands of a competitive educational environment have been reported to be also potentially stressful to students in allied health programs (Balogun et al, 1995). An appreciable number of students in the health professional education programs at UWC were already distressed. In addition, over one-fifth of the students who were already distressed also complained of either tension-type headache. A similar study on stress,

coping, depression, and somatic distress among 69 medical students at the University of Mississippi found clinical levels of depression in almost one-quarter of the group, and high levels of somatic distress in over one half (Mosley et al., 1994).

The findings in this study would have far reaching impact on the efforts of the university to contribute to increasing the number of health care personnel from previously disadvantaged communities. While a more detailed assessment may be required to confirm the occurrence of distress with somatic or depressive symptoms, the current findings have an immediate and direct impact on the life of the affected student. Students who do not cope effectively with the stress encountered at university are at a higher risk of developing health problems and academic failure. This will negatively affect the pass through rates in the different education programs. It is therefore recommended that students identified as being distressed or at risk of being distressed be advised to seek immediate assistance, especially through the Students Counselling Centre at the university. In addition, the centre should develop both preventive and combative strategies, in the form of health promotion programs, to reduce the effects of stress on students' health and academic performance. However, it will be necessary to first identify the possible stressors in the programs. Similarly, it will be helpful to confirm if the students at UWC were more prone to the development of distress and tension-type headache due to the type of community they come from.

The findings of this study may also have a future impact on the work productivity of affected students. Wolf (1994) has shown that medical students are worse off psychosocially when they graduate than when they entered university. A similar report was observed among physiotherapy students at UWC (Amosun and Dantile, 1996). The purpose of education is to bring about beneficial change. Unfortunately, if the current scenario persists, health care professionals graduating from UWC may not be able to contribute maximally to meeting the health care needs of the

communities they were trained to serve. Unfortunately, they may add to the health care burden.

It must be emphasised that the students who took part in this study were not physically assessed to confirm the reported symptoms of distress and tension-type headache. The findings of the study may therefore vary if a physical assessment were carried out. The study has also not confirmed whether the students were distressed before the onset of headache, or whether the headache led to the distress experienced.

## CONCLUSION

Appreciable proportions of students in the health care education programs at UWC are distressed and experience symptoms of tension-type headache. There is a need for both preventive and combative strategies to reduce stress among the students.

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