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Factors contributing to stress among radiography and nursing students at the University of Namibia

Mweipaanhu R Ndahepele *BRad Radiography* | Edwin R Daniels *BTech Radiography* | Caroline Nabasenja *MTech Radiography* | Christine N Damases-Kasi *PhD Medical Radiation Sciences*

University of Namibia, Faculty of Health Sciences, School of Nursing, Windhoek, Namibia

Abstract

Objectives Several factors, such as the pressure of academics and difficulties to integrate into the academic system, are associated with stress among university students. The purpose of the study was to explore the factors associated with stress among radiography and nursing students at the University of Namibia (UNAM).

Method A descriptive study was conducted at the University of Namibia, School of Nursing. Fifty participants were recruited by using a convenient sampling technique. A self-administered questionnaire was used to assess factors contributing to stress. Data were analysed using Statistical Package for the Social Sciences® (SPSS) Version 23.

Results Forty-eight (n=48) completed questionnaires were returned resulting in a 96% response rate. Of the 48 respondents, 46 (96%) indicated that they experienced stress, whereas two (4%) never experienced stress. The most common stressors among the participants were: personal or family related (30%), academic (29%), financial (24%) and environmental (17%).

Conclusion The results indicated that a high number of respondents experienced stress. Personal or family related factors were the major contributors to stress. The findings can be useful in designing a stress management programme for radiography and nursing students.

Keywords students, university, family factors, environment factors

Introduction

An individual is stressed when there is a challenge to either the homeostasis or body's internal sense of balance.^[1] Stress can be classified as either eustress 'good', or distress 'bad' stress. Eustress is regarded as a positive form of stress that encourages an individual to continue working.^[1] When this stress becomes intolerable and/or unmanageable then distress manifests. When the latter manifests, this means an individual is at a stage where they can no longer bear or cope with their experience.^[1]

A build-up of tension, lack of excitement in challenges, and a sense of hopelessness or despair signify change from eustress to distress. Distress is known to lead to poor decision-making.^[1] An overstressed person generally appears anxious, tense, unable to relax, oversensitive, easily upset or irritable, startled or fidgets, and demonstrates intolerance of any interruption or delay. Excessive stress results in an increased prevalence of psychological problems like depression, anxiety, substance abuse, and suicide ideation.^[2-4]

It is reported that factors such as the pressure of academics with an obligation to succeed, an uncertain future and diffi-

culties of integrating into the system, are associated with stress among students.^[5] Additionally, social, emotional and physical, as well as family problems, may affect students' learning ability and academic performance.^[6,7] Over the past decade, several authors developed an interest in stress associated with medical training.^[8-10] These studies identified, and classified the factors associated with stress into academic pressures, social issues, and financial problems. Previous studies emphasised the importance of the quality of life of students during their training period at medical colleges.^[8-10]

The majority of the studies on factors contributing to stress among university students are from developed countries.^[6-10] While the findings of these studies have been used to introduce effective stress management programmes in industrialised countries,^[11-13] factors contributing to stress among university students in developing countries have not been investigated widely. Several developing countries such as Brazil, Bangladesh, and Malaysia, reported stress among medical students and emphasised the role of academics as a source of stress.^[14-16] It is assumed that the students at University of Namibia (UNAM) School of Nursing probably ex-

perience similar stressors as the respective students in developed and other developing countries.

Despite the compelling reports on the stress levels among medical and dental students elsewhere, there is no literature on Namibian radiography and nursing students' stress levels or factors contributing to their stress. The radiography programme at UNAM is hosted in the School of Nursing. The curriculum is thus designed that radiography and nursing students jointly attend some modules. Thus, it is likely that radiography students experience similar stressors as nursing students. In order to determine whether the students shared similar stress factors it was decided to conduct this study.

Materials and methodology

Ethics clearance to conduct the study was obtained from the Ministry of Health and Social Services (Namibia). A quantitative cross-sectional, explorative and descriptive study was conducted by means of a self-administered questionnaire adopted from previous studies^[17-20] and adapted to the Namibian context. Two studies confirmed that this questionnaire had very good reliability at Cronbach's alpha of $\alpha=0.91$ and $\alpha=0.80$, respectively.^[18,20] The

questionnaires were distributed to both radiography and nursing students at UNAM. The questionnaires were coded; personal details were not included on the questionnaire to ensure anonymity.

The questionnaire comprised two sections. Section A was on the demographics of the respondents; section B assessed the stress levels and factors contributing to stress amongst the respondents. The questionnaire consisted of nine items: four closed-ended and five open-ended questions. Possible stressors were categorised into four groups: personal or family, academic, financial, and university environment.

The section concerning personal or family factors comprised questions on whether the respondents had family support; whether family expectations were high; whether the respondents had girlfriend or boyfriend related stress; whether being away from family was stressful; whether not having accommodation was stressful, and whether being bullied contributed to their stress.

The section on academic factors comprised information such as whether there were high expectations from the lecturers; whether the syllabi were congested; whether there were too many assignments; whether too many tests were scheduled; whether the class schedule was tight; and whether academic resources were available for use.

The section on financial factors was structured to provide information on whether insufficient tuition fees was stressful; whether lack of transport money to attend class and clinical practice was stressful; whether lack of pocket money was adding to stress; and whether an inability to afford accommodation contributed to their stress.

The environmental section included information on whether respondents were not used to the university environment; whether they found the university environment to be noisy; whether they just did not like the university environment; and whether people within the university were impolite.

For each of these sections, there was an option to indicate and specify any other factors which might have contributed to their stress.

The face and content validity were determined by piloting the questionnaire on ten students. Based on their responses and comments, no amendments were made to the research tool. The responses of the piloted questionnaires were excluded from data analysis.

A sample power calculation was performed on the total number of 850 students registered within the School of Nursing. At an alpha of 85%, the ideal sample of 50 students was considered to be representative of the total number of students registered in undergraduate studies. Using convenience sampling, 50 students were included in the study cohort. The study cohort was inclusive of both nursing and radiography students.

The study was conducted at the main UNAM campus in Windhoek. The data were collected during September 2016. Prior arrangements were made with lecturers to meet with potential respondents. During these sessions, the purpose and the rationale of the study were explained. Interested students were then invited to take part in the study. An information leaflet and the questionnaire were given to all who agreed to take part in the study. The respondents returned their signed consent forms and completed questionnaires at the end of each lecture. Based on the responses, the data were grouped according to each respondent's year of study.

Data were analysed using Statistical Package for the Social Sciences (SPSS) version 23. Graphs were created using Microsoft Office Excel version 2011. Factors associated with stress were determined by using descriptive statistics presented by means of frequency distributions and graphical displays.

Results

Forty-eight (n=48) completed questionnaires were returned resulting in a 96% response rate. The study cohort comprised fourth year (17%; n=8), third year (52%; n=25), second year (21%; n=10) and first year (10%; n=5) undergraduate students of which 23% (n=11) were diploma students and 77% (n=37) were degree students. The age of the students ranged from 18 to 35 years.

Personal or family (30%; n=14), academic (29%; n=14), financial (24%; n=12) and environmental (17%; n=8) related reasons were the four main factors responsible for stress among the respondents as shown in Figure 1.

Several respondents reported that a combination of factors contributed to their stress (see Table 1). Eleven (23%) indicated that a combination of all four factors contributed to their levels of stress. Combinations of academic and personal or family related reasons, as well as financial and personal/family each contributed 19% (n=9) to stress. A combination of en-

Table 1. Combinations of stress factors

STRESS FACTORS	PERCENTAGE OF PARTICIPANTS
Academic, financial, personal/family and environmental	23%
Academic and personal or family	19%
Financial and personal/family	19%
Personal, academic and environment	8%
Academic and financial	8%
Environmental and financial	2%

Table 2. Academic factors that induce stress among students

ACADEMIC FACTORS	PERCENTAGE OF PARTICIPANTS
High expectations from lectures	23%
Heavy and tight syllabus	23%
Too many assignments	23%
Too many test	49%
Too many classes	15%
Few resources	26%
Others (due dates, cancellation of classes, failure)	8%

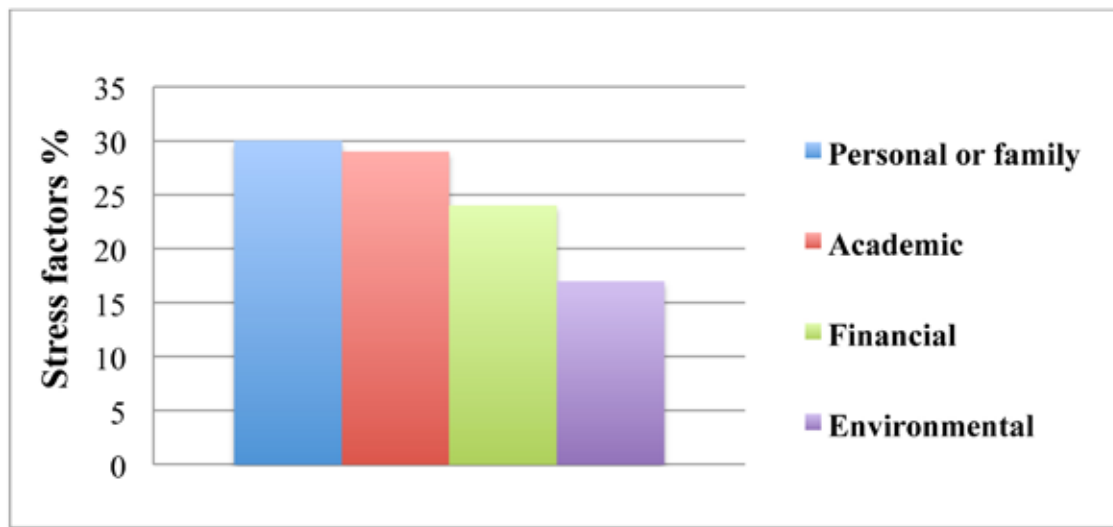


Figure 1. Factors associated with stress among respondents.

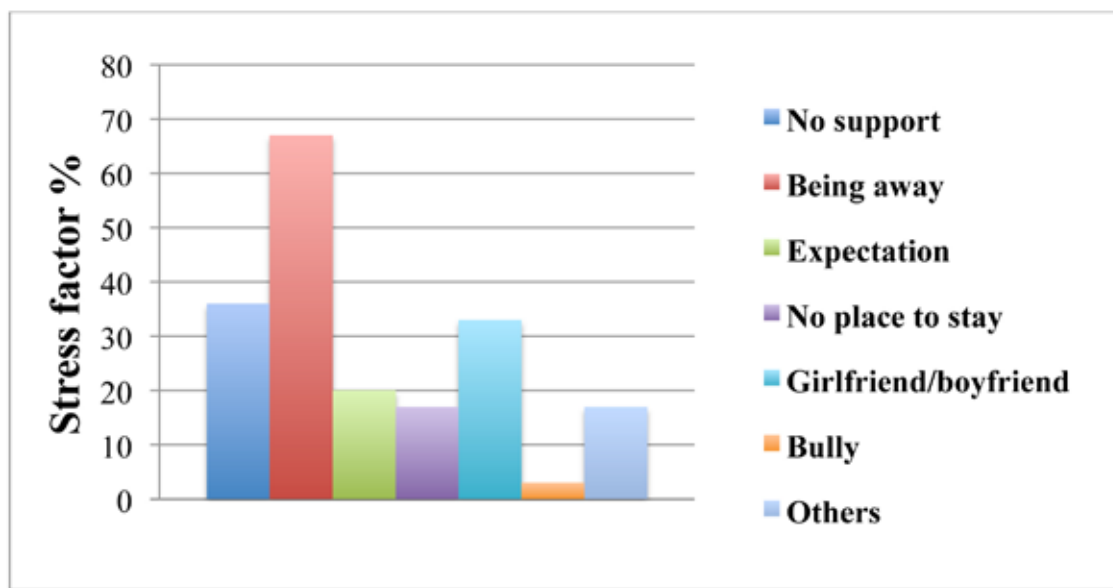


Figure 2. Factors associated with personal or family related stress.

vironmental and financial stressors (2%; n=1) was considered to be a minor contributing factor to stress.

• Personal or family factors contributing to stress

Figure 2 demonstrates various factors contributing to either personal or family stress. Of these factors, being away from home was perceived as the most stressful (67%; n=32), followed by absence of support from family (36%; n=17), girlfriend and boyfriend problems (33%; n=16), high expectations from family (20%; 10),

not having a place to stay (17%; n=8), and bullying at university (3%; n=1). Expectations from family to perform well and uphold prestige contributed to stress among 20% (n=10) of the respondents. Under the option other, 17% (n=8) of the respondents indicated that factors such as not having someone to talk to, not being trusted, and spiritual reasons, contributed towards stress.

• Academic factors contributing to stress

Among the academic factors, high expectations from lecturers, congested syl-

labi and too many assignments were each equally regarded as stressful by 23% (n=11) of the respondents. The majority 49% (n=23) perceived too many tests to be the major contributing factor to academic stress. Lack of resources available for academic use and too many classes were perceived as stressful by 26% (n=12) and 15% (n=7) respectively. Under the option other, 8% (n=4) indicated that cancellation of classes at the last minute, failing tests and examinations, as well as close proximity of due dates for assignments can be stressful (Table 2).

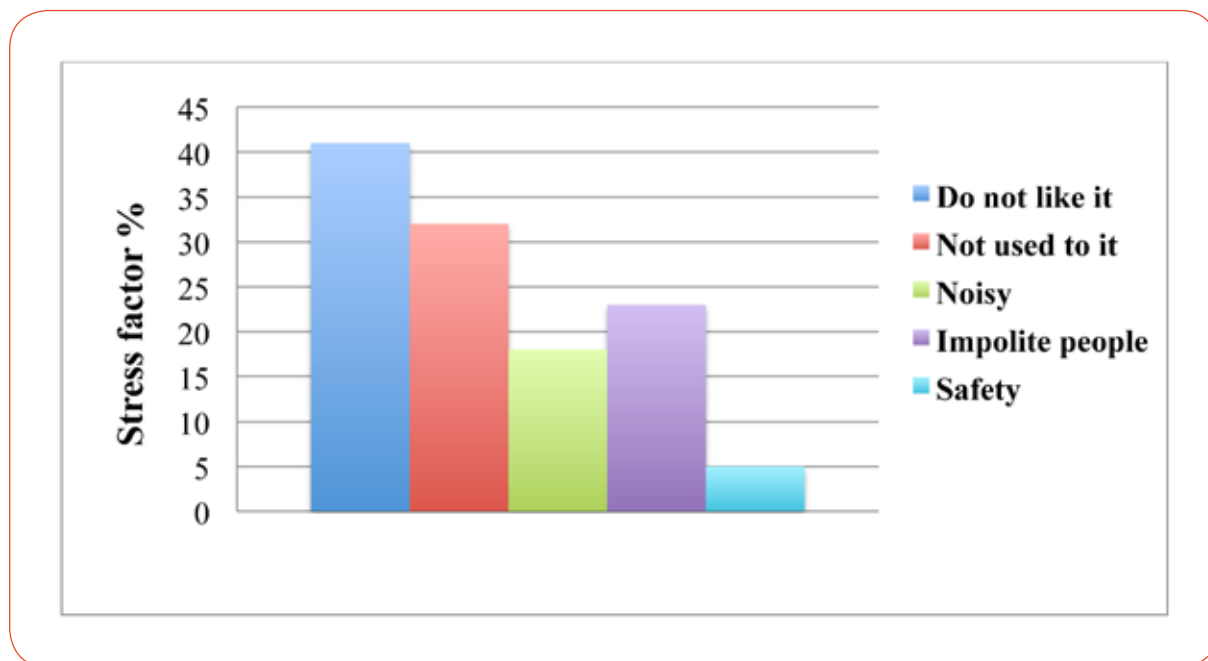


Figure 3. Environmental factors contributing to stress.

• Financial factors contributing to stress

Factors such as lack of pocket money (63%; n=30), insufficient transport money to attend classes as well as practical sessions (58%; n=29), the inability to pay for accommodation (16%; n=8), and tuition fees (13%; n=6), contributed to financial stress.

• Environmental factors causing stress

Forty-one percent (n=20) indicated that being in an environment that they do not like was stressful; 32% (n=15) found it difficult to adapt into their new environment (see Figure 3). Eighteen percent perceived noise as a contributing factor to stress; 23% (n=11) were stressed by impoliteness of the people within the university environment. Under the option other, 5% (n=2) reported that lack of safety increased their stress levels.

Discussion

There is evidence that stress contributes to psychological, physical and behavioural problems as well as poor academic performance.^[5] On the other hand, stress is reported to be a motivating factor for improved academic performance for some individuals.^[21,22]

This study identified four major factors contributing to stress: academic, financial, personal/family-related, and environmental. The current findings are similar to Ross et al's^[23] study on reasons for stress

among students: personal or family (30%); academic (29%); financial (24%); and environmental (17%). The latter reason was reported to be 40% in a study by Sharma and Kaur.^[5]

• Personal or family related factors

The factors responsible for personal or family stress in this study as shown in Figure 2 are similar to those recorded in Vietnam^[24] even-though the ranking order of stress factors differs. In this study, being away from home was the major factor, which may be attributed to students joining a university campus far from their hometowns. This stress factor may be due to lack of accommodation (17%; n=8) and family support (36%; n=17), as well as absence of a family member to talk to as experienced by the respondents. This may have led to respondents seeking other support structures from either boyfriends or girlfriends (33%; n=16) who were also identified as sources of stress. In an environment where it is deemed prestigious to study at university, high family expectations (20%; n=10) were a source of stress for the respondents.

• Academic reasons

Wide variations were observed as causal factors contributing to academic stress. Among academic factors, tests and examinations were ranked the highest (49%; n=24), followed by large volume of work (23%; n=11). This is contrary to an Ameri-

can study in which 75% and 73% of students at a Midwestern university reported that their stress was caused by tests and examinations, and large volume of work, respectively.^[23]

For the current study, both nursing and radiography programmes have theoretical and practical or clinical components. This requires more class and clinical allocations that may result in over-burdening of assignments and failing of tests. Students may thus have limited time for co-curricular activities and relaxation. It is therefore not surprising that the large volume of work was a cause of stress in this study.

• Financial factors

The high cost of higher education is well documented internationally.^[25-27] The current study found respondents' inability to pay tuition and accommodation fees, as well as lack of pocket and taxi money, resulted in absenteeism from classes and clinical practice, which in turn contributed to stress. In the United Kingdom^[25] inability to pay tuition fees caused poor academic performance. In a developing country such as Namibia, it is important to develop strategies to alleviate students' financial burden, and to provide subsidised transport and residential services to reduce their stress.

• Environment factors

Contrary to previous studies by Yussof et al^[28], and Sharma and Kaur^[5], the cur-

rent study found that exposure or change to a new living environment alone did not contribute to stress. However environmental reasons, combined with other factors, contributed to stress. In the current study, 32% (n=15) of the respondents were affected by change in their living environment. Other factors such as impoliteness of the people, noise levels, and safety around the university environment, also increased stress. Sharma and Kaur^[5] reported that the stress in 75% of their respondents was from absence of a calm and quiet environment; and 95% of their respondents did not feel safe in their university environment.

Limitations of the study

This is the first study investigating factors associated with stress among the School of Nursing students at UNAM. The study had limitations. Firstly, the findings of this research were limited to School of Nurs-

ing students at the UNAM main campus, therefore the results cannot be generalised to other training institutions and UNAM campuses. Secondly, we do not know whether similar stress factors will be observed for students at other UNAM campuses and training institutions. Thirdly, the use of convenience sampling does not clearly indicate the proportions of the study cohorts, thus the total number of radiography students in this study is unknown.

Recommendations

The current findings are likely to inform policies and practices on continuous assessments considering that students were stressed by failing tests and examinations as a result of an increased workload. Alternative summative assessment strategies are recommended to overcome this challenge. Further work is necessary to determine whether students at other

UNAM campuses experience stress and to draw comparisons between radiography and nursing students' stress levels. Additionally, further work should be done to investigate whether introduction of a stress management programme reduces the levels of stress observed in this study cohort.

Conflict of interest

We declare that we have no competing interests.

Contributions of authors

Guarantor of integrity of entire study: CNDK; study concepts and design: MRN; literature research: MRN, ERD, CNDK, CN; statistical analysis: MRN, ERD, CNDK, CN; manuscript preparation: MRN, ERD, CNDK, CN; manuscript editing: MRN, ERD, CNDK, CN.

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