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Perceived Source of Stress Among Undergraduate Dental Students at BPKIHS, Nepal

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Abstract

Stress is defined as the body's nonspecific response or reaction to demands made on it, or to disturbing events in the environment. The current study was undertaken to determine the prevalence of the sources of stress among the undergraduate dental students of, BPKIHS, Nepal. The descriptive cross sectional study was conducted using the Dental Environmental Stress Questionnaire (Westerman et al, 1993). The questionnaire was administered in the classroom. Data analysis was carried out using SPSS version 12.0. Based on the results obtained it was concluded that fear of failing, academic workload and requirements for completing the graduation were the most prevalent stressors. Clinical factors related to lack of time, patients unavailability and attitude of the faculty were considerably stressful. The living conditions and social factors were found to be the least of the stressful events. Factors related to marriage and children were deemed not related to creating any stress in the academic environment. This study highlights a need to review the current curriculum of the undergraduate students and to make suitable modifications to create a less stressful study environment for the future dentists of the country.

Key Words: Stress , dental , students , Nepal

Introduction

Stress is defined as the body's nonspecific response or reaction to demands made on it, or to disturbing events in the environment.^{1,2} Feelings of stress in humans result from interactions between persons and their environment that are perceived as straining or exceeding their capabilities and threatening their well-being. The element of perception indicated that the responses reflect difference, in personality as well as differences in physical strength or health.²

Personal and environmental events that cause stress are known as stressors.^{3,4} The diagnostic and statistical manual of mental disorder(DAM-IV-TR) defines a psychosocial stressor as “any life event or life change that may be associated temporally (and perhaps causally) with the onset, occurrence or exacerbation(worsening) of a mental disorder.”⁵

Numerous stress models have been presented to address the question of work stress and how the individual reacts to this .⁶ According to the job-strain model, introduced by Karasek and Theorell in 1990, there are two factors that determine stress; decision autonomy and psychological demands.⁷

Richard Lazarus published in 1974 a model dividing stress into eustress and distress, where enhances function(physical or mental, such as through strength or training or challenging work) it may be considered eustress.⁸

Persistent stress that is not resolved through coping or adaptation, deemed distress, may lead to escape (anxiety) or withdrawal (depression) behavior. The difference between experiences which results in eustress or distress is determined by disparity between an experience(real or imagined) personal expectations, and resources to cope with stress. Alarming experiences, either real or imagined, can trigger a stress response .⁸

School is an important arena for social and emotional development; however, it can also be a source of negative life events. Poor academic achievement and belief about academic ability, coupled with depression, result in poor school engagement, enhanced perceptions of school-related stress and increased problem behaviours.⁹

The prevalence and multilevel consequences of high levels of stress amongst students in the health sciences are well documented. It is common ground that high levels of perceived stress amongst undergraduates are associated with psychological distress¹⁰; moreover, evidence indicates that considerable proportions of students report stress-related health problems and may exhibit early symptoms of professional burnout¹¹. Comparative studies amongst health science students are concordant in that dental students report or experience significantly higher levels of stress compared with their medical colleagues¹². This may be attributed to the complex nature of dental education, wherein undergraduates are required to develop precision surgical skills and perform them during their training, whilst having to deal with increased academic workload¹³. Other frequently cited reasons include differences in personality characteristics and career choice¹⁴. It is important for dental schools to identify stress levels among its students when planning the curriculum and working environment for dental education to create a more student friendly, less stressful, atmosphere¹⁵. The aim of this study is to determine the prevalence of the sources of stress among the undergraduate students of College of dental surgery, BPKIHS, Nepal.

Methodology

A descriptive cross sectional study was conducted at College of Dental Surgery, B.P. Koirala Institute of Health Sciences. The data for this study was collected by a self administered questionnaire. The questionnaire evaluated experiences during the preceding academic year. The questionnaire was adopted from the Dental Environmental Stress Questionnaire (Westerman et al, 1993). The questionnaire was administered in the classroom. Data analysis was carried out using SPSS version 12.0. The students were informed regarding their participation in the study and all the individuals consent was obtained in writing. Ethical Approval was obtained from the Institutional Ethical review board (IERB) / research committee of B P Koirala Institute of Health Sciences.

Results

A total of 129 students out of 160 participated willingly in this study which constitutes 80.625 % of the study population. Out of the respondents 68 were male and 61 were female. The students' response to the questionnaire is represented in Table-1. Fear of failing was found to be the most common (44.2%) stressor among the dental undergraduate students. Other factors which were the most common stressors included lack of time to do assignment (37.2%), amount of work assigned (35.7%) and completing the requirements needed for graduation (35.7%). Factors like inability to complete the patients' treatment or examination (37.2%), inconsistency of feedback regarding work from different instructors (36.4%), difficulty of the course and fear of examination and grades (34.1%) and attitude of faculty towards the students (31.8%) were considered to be moderately stressful. Numerous factors included in the questionnaire were deemed slightly stressful by majority of the students. These included responsibilities for comprehensive patients care (48.1%), learning environment created by faculty (41.1%), expectations of professional school vs reality (39.5%), receiving criticism about work (38.8%), difficulty in learning precision skills in clinical and laboratory work (38%), difficulty in learning clinical procedure (36.4%), lack of confidence to be a successful professional student (35.7%), working on patients with poor oral hygiene and rules and regulations of the school (34.1%), insecurity concerning the professional future (33.3%), lack of time for relaxation (32.6%), lack of confidence in career decision (31.8%), financial responsibilities (29.5%) and patients not available for treatment of examination (27.9%). The least of the stressful situations encountered by the students included relationships with the classmates (51.9%), personal physical health (38%), lack of atmosphere in living quarters (34.1%), discrimination due to race, class, status, ethnic group or sexual orientation (32.6%) and competition with class mate (27.9%). Few factors were considered insignificant as a contributor of stress by majority of the students. The included factors not directly related to the academic protocol of the students and were purely personal or social factors like having children (69.8%), marital/relationship problems (62.8 %), forced postponement of marriage, engagement or having children (61.2%), having a dual role of spouse/parents and students/professional (56.6%), amount of cheating in professional school (33.3%) and financial responsibilities (29.5%).

Discussion

The dental students at BPKIHS go through at five and half year of BDS programme which includes four and half years of training and one year of internship. All the students are of Nepali origin and belong to similar socio-economic background. The institution being a residential setup, the students are provided accommodation in hostels within the campus. Hence the students are exposed to similar living conditions. Based on the responses of the questionnaire, it was observed the fear of failing was the most stressful factor among all the students. This observation coincides with most studies conducted for determining the perceived source of stress among dental students¹⁶⁻¹⁹. Other stressful factors included lack of time, amount of work assigned and completing the requirements for graduation. This shows that academic workload has a serious effect on the dental students. The requirement of taking an examination at the end of the academic year adds to the stress among students. Steps should be taken to revise the curriculum by adding grading systems and other evaluation techniques to the current system so that the students go through the academic year without worrying about the year ending examinations.

The factors which were considered moderately or slightly stressful included the clinical factors like inability to complete patients treatment, comprehensive patient care, environment created by faculty, expectations of professional school vs reality, receiving criticism about work, difficulty in learning precision skills in clinical and laboratory work, difficulty in learning clinical procedure, lack of confidence to be a successful professional student, working on patients with poor oral hygiene and rules and regulations of the school. This could be due to the fact that the dental curriculum involves only the teaching of treatment procedures in the clinics. The students being young individuals fail to cope with the additional factors like time and patient management. Induction of regular lectures regarding the same and on how to cope up working in a stressful environment will go a long way in preventing professional burn out and shaping up competent dental professionals for the future.

Factors like relationships or competitions with classmates, personal health, living conditions and other social factors like discrimination based on race, class, status, ethnic group or sexual orientation were considered least stressful. Similar results were observed in the study conducted by Harikiran AG et al²⁰. The residential setup at BPKIHS has gone some way in reducing the stressors related to these factors. This creates a healthy atmosphere among the students and helps in coping with the same.

Factors like having children, marriage/ relationship problems, financial responsibilities and playing a dual role as spouse/parents and students professionals were considered as not pertinent to being a stressor among the students.

Conclusion

Based on the study that we conducted, it is clear that academic requirements and the clinical settings are the most stressful factors faced by students during the course of BDS degree programme. Hence it is necessary to review the current curriculum and also to incorporate additional training in handling the patients and managing time also.

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TABLE-1 :Responses to questionnaire evaluating stress

| Q.1 Amount of assigned work | Frequency | Percentage |
|--|-----------|------------|
| 1 – Not pertinent | 0 | 0 |
| 2 – Not stressful | 10 | 7.8 |
| 3 – Slightly stressful | 36 | 27.9 |
| 4 – Moderately stressful | 37 | 28.7 |
| 5 – Very stressful | 46 | 35.7 |
| Q.2 Difficulty of course | | |
| 1 – Not pertinent | 0 | 0 |
| 2 – Not stressful | 11 | 8.5 |
| 3 – Slightly stressful | 40 | 31.0 |
| 4 – Moderately stressful | 44 | 34.1 |
| 5 – Very stressful | 34 | 26.4 |
| Q.3 Competetion of classmate | | |
| 1 – Not pertinent | 11 | 8.5 |
| 2 – Not stressful | 36 | 27.9 |
| 3 – Slightly stressful | 31 | 24.0 |
| 4 – Moderately stressful | 31 | 24.0 |
| 5 – Very stressful | 19 | 14.7 |
| Q.4 Examination and Grades | | |
| 1 – Not pertinent | 2 | 1.6 |
| 2 – Not stressful | 8 | 6.2 |
| 3 – Slightly stressful | 36 | 27.9 |
| 4 – Moderately stressful | 44 | 34.1 |
| 5 – Very stressful | 39 | 30.2 |
| Q.5 Amount of cheating in professional school | | |
| 1 – Not pertinent | 43 | 33.3 |
| 2 – Not stressful | 22 | 17.1 |
| 3 – Slightly stressful | 27 | 20.9 |
| 4 – Moderately stressful | 20 | 15.5 |
| 5 – Very stressful | 17 | 13.2 |
| Q.6 Completing graduation requirement | | |
| 1 – Not pertinent | 4 | 3.1 |
| 2 – Not stressful | 8 | 6.2 |
| 3 – Slightly stressful | 30 | 23.3 |
| 4 – Moderately stressful | 41 | 31.8 |
| 5 – Very stressful | 46 | 35.7 |
| Q.7 Fear of failing | | |
| 1 – Not pertinent | 6 | 4.7 |
| 2 – Not stressful | 10 | 7.8 |
| 3 – Slightly stressful | 26 | 20.2 |
| 4 – Moderately stressful | 30 | 23.3 |
| 5 – Very stressful | 57 | 44.2 |
| Q.8 Lack of time to do assignment | | |
| 1 – Not pertinent | 0 | 0.0 |
| 2 – Not stressful | 9 | 7.0 |
| 3 – Slightly stressful | 28 | 21.7 |
| 4 – Moderately stressful | 44 | 34.1 |
| 5 – Very stressful | 48 | 37.2 |
| Q.9 Fear of being unable to keep up with workload | | |
| 1 – Not pertinent | 2 | 1.6 |
| 2 – Not stressful | 9 | 7.0 |
| 3 – Slightly stressful | 35 | 27.1 |
| 4 – Moderately stressful | 46 | 35.7 |
| 5 – Very stressful | 37 | 28.7 |
| Q.10 Patients inability to complete the prescribed times for treatment or examination | | |
| 1 – Not pertinent | 6 | 4.7 |
| 2 – Not stressful | 10 | 7.8 |
| 3 – Slightly stressful | 41 | 31.8 |
| 4 – Moderately stressful | 48 | 37.2 |
| 5 – Very stressful | 24 | 18.6 |
| Q.11 Responsibilities for comprehensive patients care | | |
| 1 – Not pertinent | 6 | 4.7 |
| 2 – Not stressful | 15 | 11.6 |
| 3 – Slightly stressful | 62 | 48.1 |
| 4 – Moderately stressful | 29 | 22.5 |
| 5 – Very stressful | 17 | 13.2 |
| Q.12 Patients not available at prescribed times for treatment or examination | | |
| 1 – Not pertinent | 9 | 7.0 |
| 2 – Not stressful | 17 | 13.2 |

| | | |
|--|----|------|
| 3 – Slightly stressful | 36 | 27.9 |
| 4 – Moderately stressful | 32 | 24.8 |
| 5 – Very stressful | 35 | 27.1 |
| Q.13 Difficulty in learning clinical procedure | | |
| 1 – Not pertinent | 3 | 2.3 |
| 2 – Not stressful | 24 | 18.6 |
| 3 – Slightly stressful | 47 | 36.4 |
| 4 – Moderately stressful | 36 | 27.9 |
| 5 – Very stressful | 19 | 14.7 |
| Q.14 Difficulty in learning precision manual skills in clinical and laboratory work | | |
| 1 – Not pertinent | 3 | 2.3 |
| 2 – Not stressful | 21 | 16.3 |
| 3 – Slightly stressful | 49 | 38.0 |
| 4 – Moderately stressful | 34 | 26.4 |
| 5 – Very stressful | 22 | 17.1 |
| Q.15 Working on patients with poor personal hygiene | | |
| 1 – Not pertinent | 4 | 3.1 |
| 2 – Not stressful | 22 | 17.1 |
| 3 – Slightly stressful | 44 | 34.1 |
| 4 – Moderately stressful | 43 | 33.3 |
| 5 – Very stressful | 16 | 12.4 |
| Q.16 Learning environment created by faculty | | |
| 1 – Not pertinent | 3 | 2.3 |
| 2 – Not stressful | 22 | 17.1 |
| 3 – Slightly stressful | 53 | 41.1 |
| 4 – Moderately stressful | 17 | 13.2 |
| 5 – Very stressful | 34 | 26.4 |
| Q.17 Receiving criticism about work | | |
| 1 – Not pertinent | 2 | 1.6 |
| 2 – Not stressful | 11 | 8.5 |
| 3 – Slightly stressful | 50 | 38.8 |
| 4 – Moderately stressful | 30 | 23.3 |
| 5 – Very stressful | 36 | 27.9 |
| Q.18 Rules and regulations of school | | |
| 1 – Not pertinent | 3 | 2.3 |
| 2 – Not stressful | 15 | 11.6 |
| 3 – Slightly stressful | 44 | 34.1 |
| 4 – Moderately stressful | 38 | 29.5 |
| 5 – Very stressful | 29 | 22.5 |
| Q.19 Attitudes of faculty toward professional students | | |
| 1 – Not pertinent | 1 | 8 |
| 2 – Not stressful | 17 | 13.2 |
| 3 – Slightly stressful | 30 | 23.3 |
| 4 – Moderately stressful | 41 | 31.8 |
| 5 – Very stressful | 40 | 31.0 |
| Q.20 Inconsistency of feedback on your work among different instructors | | |
| 1 – Not pertinent | 2 | 1.6 |
| 2 – Not stressful | 13 | 10.1 |
| 3 – Slightly stressful | 44 | 34.1 |
| 4 – Moderately stressful | 47 | 36.4 |
| 5 – Very stressful | 23 | 17.8 |
| Q.21 Relationships with other members of class | | |
| 1 – Not pertinent | 13 | 10.1 |
| 2 – Not stressful | 67 | 51.9 |
| 3 – Slightly stressful | 27 | 20.9 |
| 4 – Moderately stressful | 16 | 12.4 |
| 5 – Very stressful | 6 | 4.7 |
| Q.22 Lack of time for relaxation | | |
| 1 – Not pertinent | 2 | 1.6 |
| 2 – Not stressful | 23 | 17.8 |
| 3 – Slightly stressful | 42 | 32.6 |
| 4 – Moderately stressful | 31 | 24.0 |
| 5 – Very stressful | 31 | 24.0 |
| Q.23 Lack of atmosphere in living quarter | | |
| 1 – Not pertinent | 14 | 10.9 |
| 2 – Not stressful | 44 | 34.1 |
| 3 – Slightly stressful | 35 | 27.1 |
| 4 – Moderately stressful | 20 | 15.5 |
| 5 – Very stressful | 16 | 12.4 |
| Q.24 Having children at home | | |
| 1 – Not pertinent | 90 | 69.8 |

| | | |
|---|--------|------|
| 2 – Not stressful | 13 | 10.1 |
| 3 – Slightly stressful | 12 | 9.3 |
| 4 – Moderately stressful | 7 | 5.4 |
| 5 – Very stressful | 7 | 5.4 |
| Q.25 Marital / Relationship adjustment problems | | |
| 1 – Not pertinent | 81 | 62.8 |
| 2 – Not stressful | 13 | 10.1 |
| 3 – Slightly stressful | 16 | 12.4 |
| 4 – Moderately stressful | 9 | 7.0 |
| 5 – Very stressful | 10 | 7.0 |
| Q.26 Financial responsibilities | | |
| 1 – Not pertinent | 38 | 29.5 |
| 2 – Not stressful | 16 | 12.4 |
| 3 – Slightly stressful | 38 | 29.5 |
| 4 – Moderately stressful | 21 | 16.3 |
| 5 – Very stressful | 16 | 12.4 |
| Q.27 Forced postponement of marriage , engagement or having children | | |
| 1 – Not pertinent | 79 | 61.2 |
| 2 – Not stressful | 19 | 14.7 |
| 3 – Slightly stressful | 11 | 8.5 |
| 4 – Moderately stressful | 12 | 9.3 |
| 5 – Very stressful | 8 | 6.2 |
| Q.28 Personal physical health | | |
| 1 – Not pertinent | 18 | 14.0 |
| 2 – Not stressful | 49 | 38.0 |
| 3 – Slightly stressful | 41 | 31.8 |
| 4 – Moderately stressful | 11 | 8.5 |
| 5 – Very stressful | 10 | 7.8 |
| Q.29 Discrimination due to race, class status, ethnic group, or sexual orientation | | |
| 1 – Not pertinent | 35 | 27.1 |
| 2 – Not stressful | 42 | 32.6 |
| 3 – Slightly stressful | 26 | 20.2 |
| 4 – Moderately stressful | 13 | 10.1 |
| 5 – Very stressful | 13 | 10.1 |
| Q.30 Having a dual role of spouse/ parents and students/professional | | |
| 1 – Not pertinent | 73 | 56.6 |
| 2 – Not stressful | 22 | 17.1 |
| 3 – Slightly stressful | 15 | 11.6 |
| 4 – Moderately stressful | 12 | 9.3 |
| 5 – Very stressful | 7 | 5.4 |
| Q.31 Lack of confidence to be a successful professional student | | |
| 1 – Not pertinent | 9 | 7.0 |
| 2 – Not stressful | 37 | 28.7 |
| 3 – Slightly stressful | 46 | 35.7 |
| 4 – Moderately stressful | 17 | 13.2 |
| 5 – Very stressful | 20 | 15.5 |
| Q.32 Yours expectations of professional school versus reality | | |
| 1 – Not pertinent | 5 | 3.9 |
| 2 – Not stressful | 22 | 17.1 |
| 3 – Slightly stressful | 51 | 39.5 |
| 4 – Moderately stressful | 35 | 27.1 |
| 5 – Very stressful | 16 | 12.4 |
| Q.33 Insecurity concerning your professional future | | |
| 1 – Not pertinent | 10 | 7.8 |
| 2 – Not stressful | 21 | 16.3 |
| 3 – Slightly stressful | 43 | 33.3 |
| 4 – Moderately stressful | 29 | 22.5 |
| 5 – Very stressful | 26 | 20.2 |
| Q.34 Lack of confidence in career decision | | |
| 1 – Not pertinent | 9 | 7.0 |
| 2 – Not stressful | 39 | 30.2 |
| 3 – Slightly stressful | 41 | 31.8 |
| 4 – Moderately stressful | 27 | 20.9 |
| 5 – Very stressful | 13 | 10.1 |
| Total: 129 | | |
| | Male | 68 |
| | Female | 61 |
| | | 52.7 |
| | | 47.3 |