

Assessment of Stress level among Dental Students who have Clinical Duties: A Questionnaire Based Survey

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Introduction

Dentistry has been widely acknowledged as being associated with high levels of stress. In recent years, the injurious effects of stress experienced by dental students have received much attention. The dental training curriculum demands that students master multiple domains of not only theory but also clinical proficiencies and patient-relation protocols resulting in a strenuous lifestyle affecting one's physical and mental well-being. This challenge has led to considerable interest in identifying sources of stress for students in dental education programs.

Aims & Objectives

1. Identify the perceived sources of stress among dental students in the Jazaan region of Saudi Arabia.
2. Investigate whether specific stressors were related to academic year and gender.

Materials & Methods

A descriptive cross sectional study was conducted using a self-administered questionnaire among dental students of College of Dentistry, Jazan University, Jazan, Saudi Arabia. A total of 122 students (Males and Females) participated in this study. The survey consisted of twenty five (25) questions relating to possible sources of stress using modified version of the Dental Environment Stress (DES) questionnaire and Likert Scale with response options as (1) Not stressful (2) slightly stressful (3) Moderately stressful (4) severely stressful. The undergraduates from 4th year, 5th year, 6th year and interns participated in this study.

For clarity of presentation the questionnaire items were categorized into seven main groups of stress-provoking domains (factors):

Self-efficacy beliefs (3 items), Faculty and Administration (5 items), Workload (4 items), Patient Treatment (2 items), Clinical training (4 items), Performance Pressure (3 items), and Social Stressors (4 items).

Statistical Analysis

The following data analysis techniques were used: Descriptive statistics (graphical analysis) was conducted to report sample characteristics. Independent sample t-test was used for two group comparisons like gender difference. One-way Anova test were conducted to evaluate within group differences for stress level of the participants.

Results

According to the Independent-samples t-test for male-female comparisons, significant differences were found for all seven domains of the DES questionnaire.

Females had higher mean scores of stress compared to the male across all domains of DES instrument (Table-1& Figure-1).

According to one-way ANOVA test, five domains (Clinical Training, Faculty & Administration, Patient Treatment, Performance Pressure, and Workload) out of the seven domains of Dental Environment Stress (DES) questionnaire were significantly contributing for stress level among the dental students in Jazan. The most stressful factors were 'Patient Treatment, Performance Pressure and Workload', as indicated by their higher mean score level. The less stressful factors were Social Stress and Self-efficacy beliefs (Table-2& figure -2).

Mean comparison of DES scores when compared to the other academic year level students showed fourth year students had less levels of stress. Fifth year and Internship students had on average reported higher level of stress compared to the other groups (Figure-3).

Variable	Gender		Mean diff (95% CI)
	Female Mean (SD)	Male Mean (SD)	
Clinical Training (4 Items)	2.940 (0.578)	2.383 (0.746)	0.557 (0.318, 0.796)
Faculty & Administration (5 Items)	2.741 (0.612)	2.491 (0.737)	0.250 (0.004, 0.496)
Patient Treatment (2 Items)	3.320 (0.701)	2.723 (0.926)	0.597 (0.304, 0.889)
Performance Pressure (3 Items)	3.151 (0.560)	2.660 (0.769)	0.492 (0.253, 0.730)
Self efficacy beliefs (3 Items)	2.742 (0.686)	2.326 (0.737)	0.416 (0.156, 0.676)
Social Stress (4 Items)	2.490 (0.693)	2.154 (0.788)	0.336 (0.066, 0.605)
Workload (4 Items)	3.070 (0.601)	2.628 (0.762)	0.442 (0.197, 0.688)
Over all dental stress (25 Items)	2.881 (0.439)	2.473 (0.598)	0.408 (0.221, 0.595)

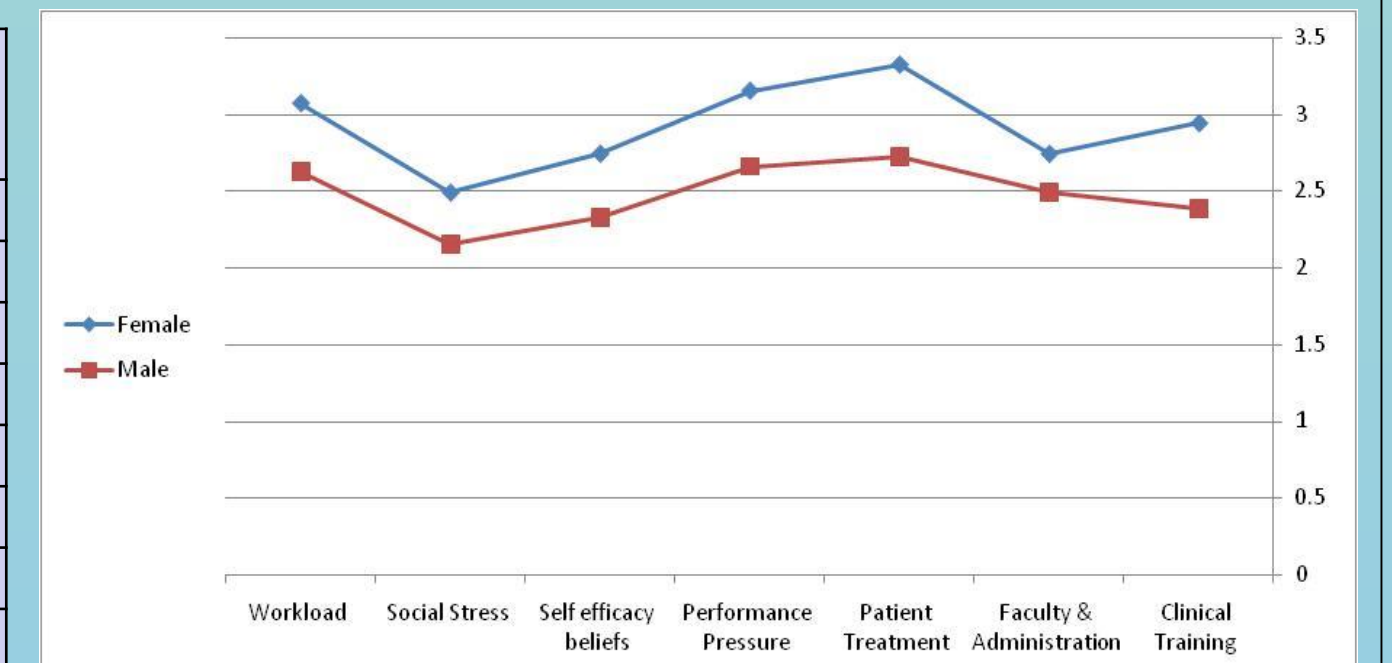


Table 1: Mean Dental Environment Stress (DES) questionnaire scores & comparison among gender

Figure 1: Mean comparison of DES scores vs Gender of Dental Students

Variable	4 th Year Mean (SD)	5 th Year Mean (SD)	6 th Year Mean (SD)	Intern Mean (SD)	p-value
Clinical Training (4 Items)	2.50 (0.73)	2.97 (0.56)	3.03 (0.53)	3.01 (0.62)	.001
Faculty & Administration (5 Items)	2.48 (0.66)	2.94 (0.70)	2.83 (0.65)	2.80 (0.58)	.017
Patient Treatment (2 Items)	2.85 (0.90)	3.32 (0.58)	3.34 (0.80)	3.53 (0.53)	.003
Performance Pressure (3 Items)	2.73 (0.72)	3.25 (0.55)	3.40 (0.41)	3.11 (0.58)	.000
Self efficacy beliefs (3 items)	2.45 (0.72)	2.80 (0.84)	2.63 (0.76)	2.81 (0.57)	.129
Social Stress (4 Items)	2.24 (0.74)	2.68 (0.87)	2.30 (0.67)	2.60 (0.61)	.074
Workload (4 Items)	2.71 (0.74)	3.12 (0.66)	3.30 (0.43)	3.00 (0.56)	.003
Over all dental stress (25 Items)	2.55 (0.56)	2.98 (0.55)	2.94 (0.33)	2.93 (0.40)	.000

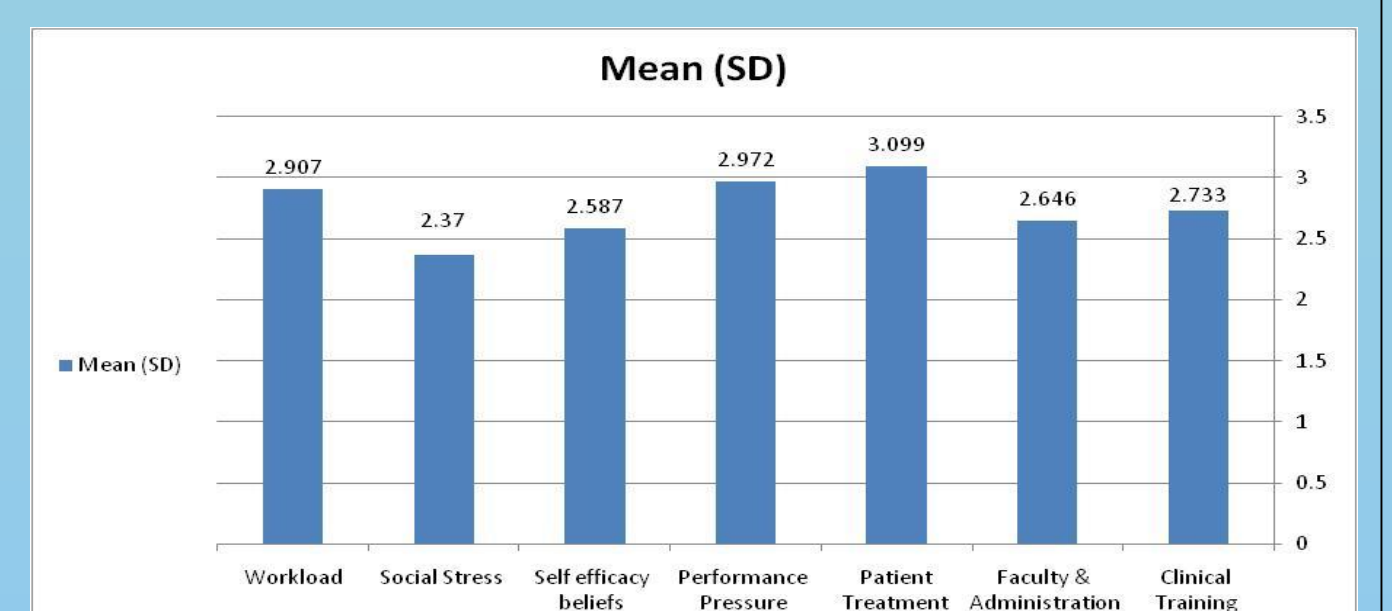


Table 2: Mean Dental Environment Stress (DES) questionnaire scores & comparison among the academic study years

Figure 2: Mean and SD of the Dental Environment Stress score distributions

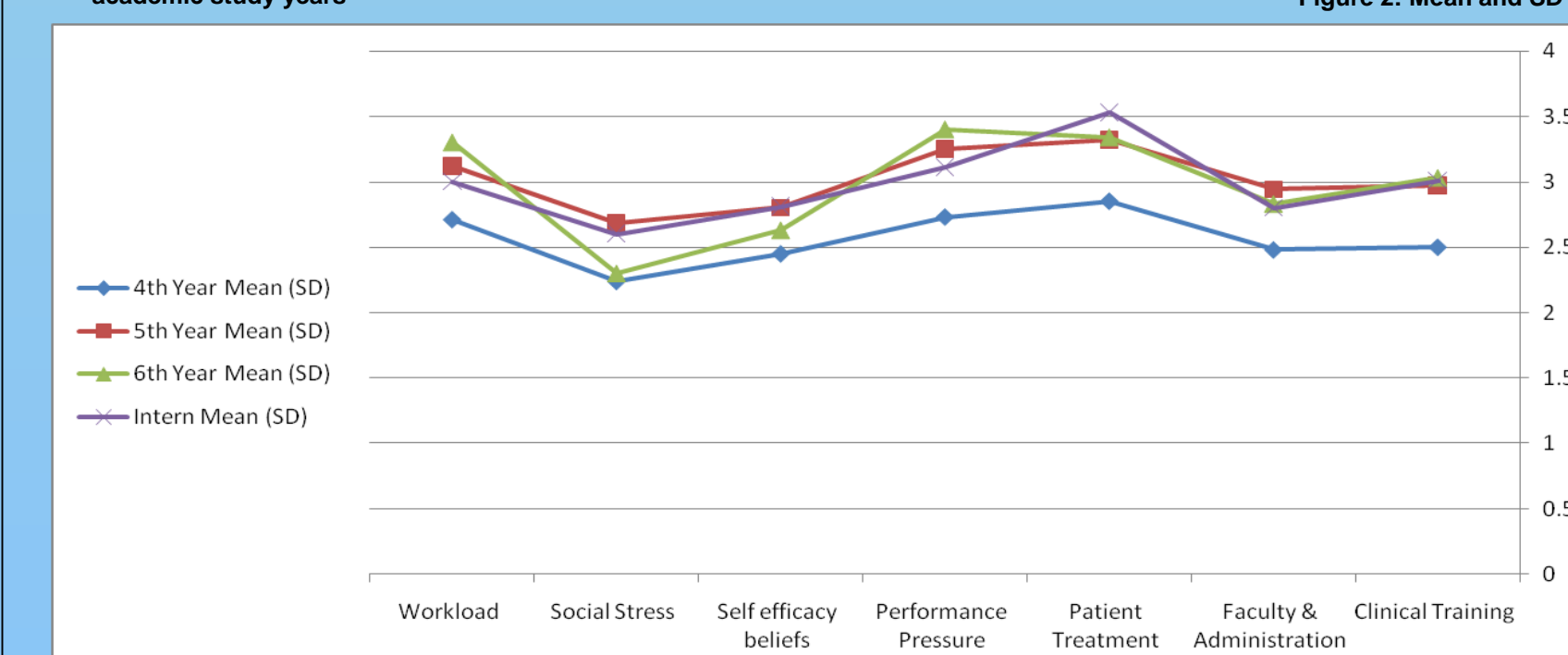


Figure 3: Mean comparison of DES scores vs Academic Year Status of Dental Students

Discussion

The main objective of this study was to identify the perceived causes of stress among dental students at the College of Dentistry. Identifying possible causes of stress may provide staff and administration an opportunity to alleviate student's stress through modifying the teaching environment, as well as adopting strategies for stress management and providing resources to help reduce stress in dental education. In our study, regardless of the gender and year it was found that "Patient Treatment", "Performance pressure" and "Workload" accounted for most of the stress experienced by students which was in consistent with the studies conducted by Zayed and Lamis [2,5]. We also found that females perceived more stress than males which was coinciding with the findings of Hamisi et al [4]. But in contrast, study conducted by Acharya (1) and Ara et al (3) showed that males expressed higher levels of stress.

Conclusions

Strategies for stress management must be implemented in dental education by advocating health promotion policies to ensure a future supply of effective dentists. Our study did have some limitations as the information was collected on self-administered questionnaires/instruments on a small sample size, we cannot rule out information bias. To overcome that limitation, longitudinal studies with larger sample size should be carried out to know the pattern of stress among dental students in different academic years. The highest perceived sources of stress reported by students should be further investigated, and methods to minimize stress resulting from these items should be developed and implemented.

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