

Stress, stressors and psychological disturbances in undergraduate students at a dental college in Jammu and Kashmir: A cross-sectional study

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Abstract

Context: Stress is a “double-edged sword” that can either make or break an individual. Dental education is notorious for being stressful for its students causing various degrees of physical and emotional distress which can eventually lead to burnout.

Aim: To identify the perceived sources of stress amongst a cohort of students performing clinical tasks in a college in the troubled state of Jammu and Kashmir.

Settings and Design: A descriptive cross-sectional quantitative study was designed for this purpose with a questionnaire which was distributed amongst BDS students.

Materials and Methods: A five-point Likert Scale item modified dental environment stress (DES) questionnaire comprising of 44 questions pertaining to different stressor domains was administered to 185 students belonging to third year, fourth year and internship.

Statistical Analysis Used: Responses were analyzed using two-way analysis of variance (ANOVA). Statistical significance was set at P value of less than 0.05.

Results and Conclusion: Fear of failing a course was reported to be the most stressful by the students with insecurity concerning the professional future and patients not being available at prescribed times for treatment or examination following. Other stressors were most in the “moderately stressful” part of the spectrum. Financial responsibilities was surprisingly among the least stressful along with certain other stressors such as having children at home and marital/relationship adjustment problems.

Conclusion: Most of the stressors identified mirror most of the national and international studies while some were found to be in contrast to the reports. An identification of these stressors amongst this cohort reestablishes the fact that it is high time that reforms were introduced into the present dental education methodology to help the students in coping with stress and to further optimize their output.

Keywords: Dental education, Education, Stress.

Introduction

Dentistry today unfortunately seems to be governed by Murphy’s law- “If anything can go wrong, it will go wrong and usually does at the worst possible time”! Right from the very beginning of their profession, the dentists, work on fearful patients providing treatments that will succeed or fail based upon microns. They toil to great limits to acquire a working knowledge of medicine, physics, materials and artistry- all the while giving great attention to detail. A natural consequence to this imposition is stress.

Hans Selye first described stress as “the nonspecific response of the body to any demand made upon it.”⁽¹⁾ It is not an unusual emotional disturbance isolated to institutionalized patients, rather it is an inescapable, intricate, essential part of all lives. A dental student is no exception to this rule. Various studies have demonstrated considerable levels of stress amongst dental students.⁽²⁻⁹⁾

Stress if not channelized the right way, may manifest as fatigue, tension, dizziness, sleeplessness, tachycardia, gastrointestinal symptoms, irritability, anxiety, and cynicism.⁽¹⁰⁻¹⁶⁾ The stressors maybe related

to academia, practice of clinical dentistry and inter- or intrapersonal relationships.^(2,6-8)

Dentistry as a first choice for a career was found to be associated with lower levels of stress.¹⁷ Also, role of the parents in taking up the stream has been evaluated by a study to be an important factor affecting stress.¹⁸ Furthermore, dental education can be financially taxing as well. The burden of repaying education loans or taking up financial responsibilities can really take a toll on young undergraduate students.⁽¹⁶⁾

The present study was taken up to identify the stressors affecting the dental students of a college in the troubled state of Jammu and Kashmir. Highlighting the specific domains of the Indian dental education system that produce more stress maybe beneficial in undertaking necessary efforts required to bring reforms for a better psychological stability of our future dentists.

Materials and Methods

After obtaining an ethical clearance from the Institutional Review Board, a modified dental environment stress (DES) questionnaire⁽³⁾ was prepared to suit the North Indian scenario. It comprised of 44

questions belonging to potential stressors such as academics, clinical skills, living accommodation, interpersonal relationships as identified by Garbee et al (1980).⁽³⁾ Additional demographic information such as sex, age and year was also collected. In addition to this, the students were asked whether taking up dentistry as a career was their own choice or their parents' or whether it was a joint decision and whether their first choice for a career was dentistry or medicine or either (didn't matter). The reliability and validity (content, construct and face) of the modified questionnaire were assessed.

The study sample consisted of 185 students belonging to third year, fourth year and interns of the BDS program. Data was collected in January 2016 by distributing a printed copy of the questionnaire amongst the students. The participants were instructed to assess the various stressors and rate them on a five-point Likert scale as score 1 = "not pertinent", score 2 = "not stressful", score 3 = "slightly stressful", score 4 = "moderately stressful" and score 5 = "very stressful". Informed written consent and anonymous submissions was obtained to ensure confidentiality of all the participants of the study. Sampling was based on willingness of the subjects to participate in the study.

Statistics

Data was analyzed using Statistical Package for Social Sciences (SPSS v.20, Chicago, IL, USA). The means and standard deviation were determined for stress scores of all individuals. Analysis of variance (ANOVA) was used to test mean differences of levels

of stress with respect to the other parameters of the study. Statistical significance was set at P value of less than 0.05.

Results

All of the 185 students participated in the study (response rate: 100%). Mean age of the participants was 21.9 ± 1.2 (range 19-24 years). Of these, 45 were male and 135 were female.

The data has been tabulated in Tables 1-4.

Mean scored for each stressor along with the standard deviation was calculated for each gender and significant difference was assessed. (Table 1)

Level of seniority i.e. the year of study (third year/ fourth year or intern) was the next parameter which was assessed. (Table 2)

The next parameter was "Difference in first choice of career" i.e. dental/ medical or didn't matter. This was done to assess whether those who chose dentistry as a first choice dealt with stress any different from those who accidentally landed there. (Table 3)

Difference in "decision maker of choice of career" was also assessed statistically to see whether it affected the stress or not. (Table 4)

Tables

Analysis of variance (ANOVA) was used to test mean differences of levels of stress with respect to the other parameters of the study.

Table 1: Mean scores for each stressor: Differences between different sexes

Question	Male Mean(SD)	Female Mean (SD)	Significant difference
1 Amount of assigned work	3.74 (0.84)	3.85 (0.76)	NS
2 Difficulty of the course work	4.21 (0.92)	4.25 (0.99)	NS
3 Competition with classmates	3.06 (0.96)	2.99 (0.95)	NS
4 Examinations and grades	3.92 (1.08)	3.97 (1.15)	NS
5 Amount of cheating in professional school	2.73 (1.86)	2.42 (1.83)	S,M>F
6 Completing graduation requirements	4.01 (0.84)	3.89 (0.95)	NS
7 Fear of failing a course, a scholastic year, or a licensing exam	4.85 (0.40)	4.90 (.352)	NS
8 Lack of time to do assigned schoolwork	3.62 (0.95)	3.74 (0.88)	NS
9 Fear of being unable to keep up with workload	3.58 (0.99)	3.75 (1.03)	NS
10 Patients' inability to complete the prescribed care plan	3.55 (1.27)	3.50 (1.57)	NS
11 Responsibilities for comprehensive patient care	3.87 (0.76)	3.89 (0.80)	NS
12 Patients not available at prescribed times for treatment or examination	4.65 (0.85)	4.66 (0.90)	NS
13 Difficulty in learning clinical procedures	3.90 (0.98)	3.86 (1.03)	NS
14 Difficulty in learning precision manual skills required in clinical and laboratory work	4.23 (0.84)	4.30 (0.82)	NS
15 Working on patients with poor personal hygiene	3.47 (1.23)	3.46(1.25)	NS
16 Learning environment created by faculty	3.89 (1.15)	3.65(1.28)	S, M>F
17 Receiving criticism about work	4.06 (1.20)	4.01(1.18)	NS
18 Rules and regulations of the school	3.38 (1.18)	3.15 (1.18)	S,M>F

19 Attitudes of faculty toward professional students	4.41 (0.80)	4.35 (0.86)	NS
20 Inconsistency of feedback on your work among different instructors	3.70 (0.84)	3.78 (0.76)	NS
21 Relationships with other members of the class	2.02 (0.94)	2.04 (0.95)	NS
22 Lack of time for relaxation	3.87 (1.29)	3.89 (1.37)	NS
23 Lack of home atmosphere in living quarters	3.63 (1.62)	3.91 (1.41)	S, F>M
24 Having children at home	1.08 (0.48)	1.01 (0.12)	S, M>F
25 Marital/relationship adjustment problems	1.08 (0.38)	1.06 (0.51)	NS
26 Financial responsibilities	1.64 (1.41)	1.36 (1.15)	S, M>F
27 Forced postponement of marriage, engagement or having children	1.09 (0.40)	1.03 (0.36)	S, M>F
28 Personal physical health	2.99 (1.21)	2.95 (1.18)	NS
29 Discrimination due to race, class status, ethnic group, or sexual orientation	3.89 (1.49)	4.08 (1.42)	NS
30 Having a dual role of spouse/parents and student/professional	1.26 (0.87)	1.24 (0.85)	NS
31 Lack of confidence to be a successful professional student	4.11 (1.88)	3.99 (1.85)	NS
32 Your expectations of professional school versus reality	4.10 (1.15)	4.04 (1.16)	NS
33 Insecurity concerning your professional future	4.70 (0.72)	4.73 (0.69)	NS
34 Lack of confidence in career decision	3.82 (1.21)	3.79 (1.22)	NS
35 Fear of not having possibility to pursue a postgraduate program	4.36 (0.82)	4.03 (1.16)	S, M>F
36 Inapproachability of teaching staff	2.99 (1.14)	2.83 (1.06)	NS
37 Difficulty in understanding literature	2.06 (0.99)	2.01 (1.06)	NS
38 Shortage of allocated clinical time	3.12 (1.61)	2.97 (1.69)	NS
39 Language barrier	1.55 (0.79)	1.54 (0.81)	NS
40 College timings	2.71 (1.53)	2.90 (1.59)	NS
41 Differences in opinion between clinical staff concerning patient treatment	3.67 (1.43)	3.68 (1.40)	NS
42 Fear of being unable to catch up if getting behind in work	4.21 (0.75)	4.22 (0.70)	NS
43 Getting an ideal case for clinical examination	3.67 (1.47)	3.45 (1.59)	NS
44 Fear of facing parents after failure	4.45 (1.09)	4.29 (1.16)	NS

Statistical significance was set at P value of less than 0.05.

Table 2: Mean scores for each stressor: Differences between years of study

Question	Third Year Mean (SD)	Fourth Year Mean (SD)	Intern Mean (SD)	Significant difference
1 Amount of assigned work	3.6 (0.58)	3.83 (0.96)	3.64 (0.98)	NS
2 Difficulty of the course work	4.4(0.63)	4.03(0.99)	3.54(1.50)	S
3 Competition with classmates	3.16(0.72)	2.81(1.16)	3.14(1.18)	NS
4 Examinations and grades	4.16(0.87)	3.67(1.25)	3.92(1.47)	NS
5 Amount of cheating in professional school	3.76(1.77)	2.67(1.63)	2.21(1.84)	NS
6 Completing graduation requirements	4.34(0.92)	3.94(0.76)	3.38(1.20)	NS
7 Fear of failing a course, a scholastic year, or a licensing exam	4.86(0.35)	4.71(0.43)	5(0)	S
8 Lack of time to do assigned schoolwork	3.65 (0.97)	3.51 (1.00)	3.45 (0.80)	NS
9 Fear of being unable to keep up with workload	3.90 (0.56)	3.95 (0.87)	3.09 (1.24)	NS
10 Patients' inability to complete the prescribed care plan	3.51 (1.36)	3.45 (1.14)	2.73 (1.19)	S
11 Responsibilities for comprehensive patient care	3.41 (0.85)	3.78 (0.96)	3.97 (0.46)	S

12 Patients not available at prescribed times for treatment or examination	4.81 (0.50)	4.85 (0.35)	3.83 (1.30)	NS
13 Difficulty in learning clinical procedures	4.58 (0.73)	3.33 (0.94)	3.47 (1.40)	NS
14 Difficulty in learning precision manual skills required in clinical and laboratory work	4.44 (0.79)	3.88 (0.99)	3.5 (1.41)	S
15 Working on patients with poor personal hygiene	2.67 (1.12)	3.90 (1.02)	2.92 (0.97)	NS
16 Learning environment created by faculty	4.09 (1.37)	3.56 (1.19)	3.80 (1.27)	NS
17 Receiving criticism about work	4.44 (0.88)	3.8 (1.31)	3.76 (1.37)	S
18 Rules and regulations of the school	2.81 (0.58)	3.67 (1.43)	3.45 (1.10)	S
19 Attitudes of faculty toward professional students	4.88(0.32)	4.09(0.93)	4(0.85)	NS
20 Inconsistency of feedback on your work among different instructors	3.65(0.71)	3.71(0.99)	3.42(0.66)	NS
21 Relationships with other members of the class	2.06(1.07)	2.02(0.95)	2.33(1.61)	NS
22 Lack of time for relaxation	3.88(1.41)	3.93(1.18)	2.85(1.74)	S
23 Lack of home atmosphere in living quarters	3.97(1.31)	3.47(1.76)	3.28(1.38)	NS
24 Having children at home	1(0)	1.21(0.72)	1(0)	NS
25 Marital/relationship adjustment problems	1 (0)	1.18 (0.67)	1.19 (0.86)	NS
26 Financial responsibilities	1 (0)	1.96 (1.61)	1 (0)	NS
27 Forced postponement of marriage, engagement or having children	1 (0)	1.26 (0.78)	1 (0)	S
28 Personal physical health	3.20 (1.26)	3.05 (1.18)	3.09 (1.42)	NS
29 Discrimination due to race, class status, ethnic group, or sexual orientation	4.39 (0.97)	2.76 (1.65)	4.78 (0.47)	NS
30 Having a dual role of spouse/parents and student/professional	1 (0)	1.62 (1.27)	1 (0)	NS
31 Lack of confidence to be a successful professional student	4.90 (0.42)	3.6 (1.16)	4.14 (0.81)	NS
32 Your expectations of professional school versus reality	4.34 (0.84)	3.97 (1.24)	4.59 (0.62)	S
33 Insecurity concerning your professional future	4.86 (0.46)	4.53 (0.86)	4.95 (0.30)	S
34 Lack of confidence in career decision	4.46 (0.93)	3.47 (1.41)	3.47 (1.23)	NS
35 Fear of not having possibility to pursue a postgraduate program	4.34 (1.06)	4.36 (0.87)	3.09 (1.26)	NS
36 Inapproachability of teaching staff	2.74 (0.84)	3.48 (0.89)	2.166 (1.20)	NS
37 Difficulty in understanding literature	2.32 (0.86)	2.06 (1.20)	1.83 (0.90)	NS
38 Shortage of allocated clinical time	3.02 (1.33)	3.4 (1.66)	2.33 (1.39)	S
39 Language barrier	1.58 (0.62)	1.64 (0.95)	1.23 (0.43)	S
40 College timings	2.72 (1.46)	2.6 (1.50)	3.57 (1.50)	S
41 Differences in opinion between clinical staff concerning patient treatment	4.32 (0.96)	3.48 (1.52)	3.69 (0.97)	S
42 Fear of being unable to catch up if getting behind in work	4.23 (0.86)	4.12 (0.80)	4.16 (0.62)	NS
43 Getting an ideal case for clinical examination	4.41 (0.79)	3.16 (1.64)	3.78 (1.22)	NS
44 Fear of facing parents after failure	4.53 (0.79)	4.71 (0.80)	3.83 (1.377)	NS

Statistical significance was set at P value of less than 0.05.

Table 3: Mean scores for each stressor: Differences in first choice of career

Question	Dental Mean (SD)	Medical Mean (SD)	Didn't Matter Mean (SD)	Significant difference
1 Amount of assigned work	3.85 (0.93)	3.74 (0.84)	3.27 (1.27)	NS
2 Difficulty of the course work	3.58 (1.46)	4.21 (0.92)	2.81 (1.47)	NS
3 Competition with classmates	2.47 (1.35)	3.06 (0.96)	3.27 (1.10)	S
4 Examinations and grades	3.70 (1.72)	3.92 (1.08)	3.18 (1.25)	NS
5 Amount of cheating in professional school	1.52 (1.06)	2.73 (1.86)	4.18 (1.40)	NS
6 Completing graduation requirements	3.12 (1.20)	4.01 (0.84)	4.72 (0.64)	NS
7 Fear of failing a course, a scholastic year, or a licensing exam	4.83 (0.42)	4.85 (0.40)	4.45 (1.29)	S
8 Lack of time to do assigned schoolwork	3.43 (0.85)	3.62 (0.95)	2.90 (1.04)	S
9 Fear of being unable to keep up with workload	4.43 (0.71)	3.58 (0.99)	3.63 (0.80)	NS
10 Patients' inability to complete the prescribed care plan	2.32 (0.54)	3.52 (1.27)	3.63 (0.92)	NS
11 Responsibilities for comprehensive patient care	3.23 (0.99)	3.87 (0.76)	3.90 (0.70)	NS
12 Patients not available at prescribed times for treatment or examination	4.5 (0.60)	4.6 (0.85)	4.09 (1.04)	NS
13 Difficulty in learning clinical procedures	3 (1.51)	3.9 (0.98)	2.72 (0.46)	NS
14 Difficulty in learning precision manual skills required in clinical and laboratory work	3.36 (1.31)	4.23 (0.84)	2.18 (0.98)	NS
15 Working on patients with poor personal hygiene	3.12 (1.03)	3.47 (1.23)	3 (0.77)	NS
16 Learning environment created by faculty	3.89 (1.15)	3.89 (1.15)	4.18 (1.16)	NS
17 Receiving criticism about work	4.05 (1.02)	4.06 (1.20)	2.63 (1.74)	S
18 Rules and regulations of the school	3.2 (1.39)	3.38 (1.18)	4.9 (0.30)	S
19 Attitudes of faculty toward professional students	3.98 (0.97)	4.41 (0.80)	3.45 (0.82)	NS
20 Inconsistency of feedback on your work among different instructors	3.50 (0.85)	3.70 (0.84)	3.54 (0.82)	NS
21 Relationships with other members of the class	2.47 (1.30)	2.02 (0.94)	1.90 (1.22)	S
22 Lack of time for relaxation	3.27 (1.70)	3.87 (1.29)	2.72 (1.90)	S
23 Lack of home atmosphere in living quarters	3.49 (1.26)	3.63 (1.62)	2.36 (1.91)	S
24 Having children at home	1.18 (0.64)	1.08 (0.48)	1 (0)	NS
25 Marital/relationship adjustment problems	1.49 (1.30)	1.08 (0.388)	1 (0)	S
26 Financial responsibilities	1 (0)	1.64 (1.41)	1.54 (0.93)	S
27 Forced postponement of marriage, engagement or having children	1.14 (0.75)	1.09 (0.04)	1.72 (1.42)	S
28 Personal physical health	3.5 (1.42)	2.99 (1.21)	3.54 (1.29)	S
29 Discrimination due to race, class status, ethnic group, or sexual orientation	3.12 (1.73)	3.89 (1.49)	2.72 (1.48)	S
30 Having a dual role of spouse/parents and student/professional	1.65 (1.41)	1.26 (0.87)	1.36 (0.92)	NS
31 Lack of confidence to be a successful professional student	3.70 (1.08)	4.11 (1.06)	4.27 (0.78)	S
32 Your expectations of professional school versus reality	4.45 (0.71)	4.10 (1.15)	4.81 (0.40)	S

33 Insecurity concerning your professional future	4.72 (0.67)	4.70 (0.72)	4.81 (0.40)	NS
34 Lack of confidence in career decision	3.61 (1.50)	3.82 (1.21)	3.18 (1.40)	NS
35 Fear of not having possibility to pursue a postgraduate program	2.72 (1.56)	4.36 (0.82)	3.90 (0.70)	NS
36 Inapproachability of teaching staff	2.56 (0.95)	2.99 (1.14)	4.09 (0.30)	NS
37 Difficulty in understanding literature	2.12 (1.41)	2.06 (0.99)	2.18 (0.87)	NS
38 Shortage of allocated clinical time	2.65 (1.49)	3.12 (1.61)	3.36 (1.12)	NS
39 Language barrier	1.4 (0.82)	1.55 (0.79)	1.63 (0.80)	NS
40 College timings	3.10 (1.55)	2.71 (1.52)	3.72 (1.00)	S
41 Differences in opinion between clinical staff concerning patient treatment	3.65 (1.09)	3.67 (1.43)	4.18 (0.60)	NS
42 Fear of being unable to catch up if getting behind in work	3.87 (0.69)	4.21 (0.75)	4.45 (0.93)	S
43 Getting an ideal case for clinical examination	2.90 (1.41)	3.67 (1.47)	4.18 (1.25)	S
44 Fear of facing parents after failure	4.36 (0.86)	4.45 (1.09)	5 (0)	NS

Statistical significance was set at P value of less than 0.05.

Table 4: Mean scores for each stressor: Differences in decision maker for choice of career

Question	Self Mean (SD)	Both Mean (SD)	Parents Mean (SD)	Significant difference
1 Amount of assigned work	4 (0.85)	3.39 (0.85)	3.78 (0.89)	S
2 Difficulty of the course work	3.45 (1.53)	4 (0.79)	4.16 (1.04)	S
3 Competition with classmates	2.91 (1.59)	3 (1.20)	2.95 (0.93)	NS
4 Examinations and grades	3.47 (1.56)	4.10 (1.36)	3.84 (1.11)	NS
5 Amount of cheating in professional school	1.86 (1.51)	2.78 (1.73)	2.71 (1.88)	NS
6 Completing graduation requirements	3.30 (1.25)	3.91 (0.89)	4.02 (0.90)	S
7 Fear of failing a course, a scholastic year, or a licensing exam	4.91 (0.41)	4.56 (0.80)	4.87 (0.40)	S
8 Lack of time to do assigned schoolwork	3.60 (0.65)	3.16 (0.86)	3.60 (1.00)	S
9 Fear of being unable to keep up with workload	4.39 (0.65)	3.75 (0.83)	3.61 (1.03)	S
10 Patients' inability to complete the prescribed care plan	3.39 (1.15)	2.64 (0.97)	3.48 (1.27)	S
11 Responsibilities for comprehensive patient care	4.04 (0.76)	3.13 (1.08)	3.87 (0.71)	NS
12 Patients not available at prescribed times for treatment or examination	4.56 (0.50)	4.70 (0.57)	4.58 (0.94)	NS
13 Difficulty in learning clinical procedures	3.17 (1.72)	3.56 (1.04)	3.79 (1.01)	S
14 Difficulty in learning precision manual skills required in clinical and laboratory work	3.47 (1.16)	3.40 (1.11)	4.17 (1.02)	NS
15 Working on patients with poor personal hygiene	3.60 (1.37)	3.21 (0.94)	3.39 (1.19)	NS
16 Learning environment created by faculty	4.56 (0.89)	3.24 (1.27)	3.75 (1.25)	S
17 Receiving criticism about work	4.34 (1.15)	3.54 (1.21)	3.99 (1.28)	S
18 Rules and regulations of the school	4.08 (1.37)	3.18 (1.04)	3.35 (1.24)	S
19 Attitudes of faculty toward professional students	4.13 (0.69)	4.27 (0.87)	4.28 (0.91)	NS
20 Inconsistency of feedback on your work among different instructors	3.78 (0.79)	3.24 (0.92)	3.72 (0.83)	S

21 Relationships with other members of the class	2.08(1.31)	2.37(1.16)	2.02(0.93)	NS
22 Lack of time for relaxation	4.04(1.36)	2.89(1.40)	3.84(1.40)	S
23 Lack of home atmosphere in living quarters	3.30(1.76)	3.29(1.39)	3.67(1.62)	NS
24 Having children at home	1.26(0.91)	1.10(0.65)	1.08(0.37)	NS
25 Marital/relationship adjustment problems	1.52 (1.27)	1 (0)	1.11 (0.53)	S
26 Financial responsibilities	2 (1.65)	1.32 (0.88)	1.61 (1.26)	NS
27 Forced postponement of marriage, engagement or having children	1.13 (0.34)	1.21 (0.82)	1.11 (0.53)	NS
28 Personal physical health	3.43 (1.52)	2.97 (1.32)	3.07 (1.18)	NS
29 Discrimination due to race, class status, ethnic group, or sexual orientation	3.52 (1.50)	2.72 (1.55)	3.92 (1.53)	S
30 Having a dual role of spouse/parents and student/professional	1.04 (0.20)	1.13 (0.53)	1.44 (1.13)	NS
31 Lack of confidence to be a successful professional student	3.95 (1.02)	4 (1.26)	4.06 (1.05)	NS
32 Your expectations of professional school versus reality	4.47 (1.16)	4.18 (0.84)	4.16 (1.11)	NS
33 Insecurity concerning your professional future	5 (0)	4.64 (0.67)	4.67 (0.76)	NS
34 Lack of confidence in career decision	4.47 (0.51)	3.29 (1.64)	3.69 (1.28)	S
35 Fear of not having possibility to pursue a postgraduate program	3.26 (1.76)	4.02 (1.11)	4.23 (0.94)	S
36 Inapproachability of teaching staff	3.56 (0.78)	2.79 (0.99)	2.97 (1.16)	S
37 Difficulty in understanding literature	2.65 (0.93)	1.75 (1.01)	2.05 (1.07)	S
38 Shortage of allocated clinical time	3.17 (1.37)	2.45 (1.52)	3.22 (1.60)	S
39 Language barrier	1.30 (0.70)	1.40 (0.76)	1.61 (0.82)	NS
40 College timings	1.95 (1.06)	3.16 (1.80)	2.93 (1.47)	S
41 Differences in opinion between clinical staff concerning patient treatment	2.86 (1.45)	3.91 (1.23)	3.84 (1.28)	S
42 Fear of being unable to catch up if getting behind in work	4.21 (0.67)	3.62 (0.82)	4.31 (0.70)	NS
43 Getting an ideal case for clinical examination	2.95 (1.79)	3.97 (0.79)	3.62 (1.53)	S
44 Fear of facing parents after failure	4.60 (1.15)	4.40 (0.86)	4.45 (1.05)	NS

Statistical significance was set at P value of less than 0.05.

Discussion

“Some pains are physical, and some pains are mental, but the one that's both is dental”. Little could author Ogden Nash have imagined that this oft quoted excerpt from his famous poem would be used to describe the plight of the (future) dentists and not the patients! Stress can have detrimental effects on dental students and it is known to be associated with physical and psychological distress, emotional exhaustion and burnout.^(12,19)

The objective of our study was to identify the perceived sources of stress among a cohort of undergraduate students in a dental college in Jammu and Kashmir. This study draws its strength from the fact it is the first of its kind in the troubled state of Jammu

and Kashmir where there is a mixed population of students belonging to different religions and cultures. Furthermore, evaluation of stressors amongst dental interns is a sphere that has been relatively untouched by most studies. This is the specific category of dental students when they arrive at the principal cross-roads of their careers.

The participants were restricted to three clinical years of under graduation, following the footsteps of Telang et al⁽¹⁶⁾ as they suggested that this methodology could better help in understanding the peak stress provoking factors. The curriculum being followed is as per the Dental Council of India guidelines.

All of the 185 students participated in the study (response rate: 100%). Mean age of the participants was

21.9 ± 1.2 (range 19-24 years). Of these, 45 were male and 135 were female. The sex ratio skewing more towards the female side is a reflection of the increase in the number of women taking up dentistry in India as studied by Tandon.⁽²⁰⁾ 24% (43 students) belonged to third year, 52.7% (95 students) to fourth or final year and 23.3% (42 students) were interns. A majority i.e. 63.3% (114 students) stated medicine as their first choice of career, while 30.6% (55 students) stated dentistry and 6.1% (11 students) said that either of the two. 66.11% (120 students) indicated that they selected dentistry due to parental pressure, 12.7% (23 students) stated that it was their own choice and 21.11% (37 students) said that it was a combined decision.

The results of this study were found to mirror some findings of studies conducted nationally and internationally. Fear of failing a course was reported to be the most stress provoking factor overall. A close second was insecurity concerning professional future. This stressor was significantly concerning for the interns who were the ones in the twilight zone. The participants who stated that dentistry was their first choice of career unanimously selected this factor to be "very stressful". Interns significantly rated this factor to be stressful to them. This might be attributable to the fact that the mushrooming of dental colleges all over the country has led to saturation in the field and interns are present right at the bottleneck of it all. This hypothesis needs to be validated by further studies. Patients not available at prescribed times for treatment or examination was rated more stressful than the fear of facing parents after failure which came in fourth. Fear of failure was seen to be most stressful in the final year group. Harikiran et al¹⁹ hypothesized that, undergraduate dental students in the final year are subjected to increased workload, because they have to take up exams in seven clinical subjects at the end of the year (Revised Scheme 2- Dental Council of India Guidelines), while only four subjects have to be faced at the end of each preceding professional year.

Fear of not having possibility to pursue a postgraduate program was found to stressful by a majority of the students where males and students who joined dentistry under parental pressure expressed it to be significantly more stressful than females and those who joined on their own or as a combined decision, respectively.

Certain areas such as difficulty in learning precision manual skills required in clinical and laboratory work, receiving criticism about work, lack of confidence to be successful professional student and differences in opinion between clinical staff concerning patient treatment, were found to be significantly more stressful in the third year cohort in comparison to fourth years or interns. This may be due to the "age-hardening" of the students as they become more confident in patient management with passing time. When asked about their expectations of professional

school versus reality, the interns showed a significantly higher rating. The student cohort who had stated the decision to join dentistry as their own also rated their expectations versus reality to be more stressful than the others although not statistically significant.

When grouped according to their first choice of career, the students who selected medical as their first option showed statistically significant difference in rating certain stressors on the higher side. These included factors such as difficulty of course work, lack of time to do assigned schoolwork, receiving criticism about work, getting an ideal case for clinical examination, fear of being unable to catch up if getting behind in work and lack of confidence to be a successful professional student.

Domains such as difficulty of course work, completion of graduation requirements, difficulty in learning clinical procedures, fear of not having the possibility to pursue a postgraduate program and shortage of allocated clinical time were recognized to be significantly more stress provoking by the students who entered dentistry due to parental pressure than others. On the other hand, students who made the decision of joining dentistry on their own rated factors such as fear of being unable to keep up with workload, receiving criticism about work and most importantly, lack of confidence in career decision to be significantly on the higher side.

Examination and grades if evaluated as a binomial variable as suggested by Harikiran et al,⁽¹⁹⁾ was found to be stress provoking across all classes. This finding is consistent with most published studies^(16,19,21,22) but is in contrast with Westermann et al,⁽²³⁾ who did not consider examination as a major stress factor.

Financial responsibility was amongst the least stress provoking factor as recognized by our study. This is in concordance with the studies performed by Naidu et al⁽⁸⁾ and Acharya⁽¹⁸⁾ who reported minimal or no stress because of reasons such as parental financing and subsidized tuition fee as an education policy of the state. However, this is in sharp contrast to other reports worldwide.^(9,21,24,25) Other factors which provoked the least amount of stress were having children at home, marital/relationship adjustment problems, forced postponement of marriage, engagement or having children, having a dual role and language barrier.

This study helped identify the specific potential stressors in a dental college in Jammu and Kashmir. Majority of the stressors belonged to factors pertaining to academic and clinical scenarios. Since these are almost impossible to do away with in the present education system, it becomes imperative to enhance the stress coping skills of the students.

Establishment of student advisors and students counselors within the dental school, as recommended by Schwartz et al⁽²⁶⁾ combined with a strong mentor-mentee relationship can contribute to improvement in the educational environment. Steps

towards improvement in the teaching-learning methodology have been implemented by Telang et al⁽¹⁶⁾ in the form of a strong mentor-mentee scheme, student feed-back sessions and a student friendly e-learning portal. 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, and atmosphere.

Furthermore, the role of parents in deciding the careers of their wards especially in the Indian setting, cannot be overemphasized. Parents should be counseled during their children's pre-university period about the ill effects of pressuring them to join an educational program against their wishes. This can be done by seeking the help of the high school authorities in conducting workshops involving parents and teachers on a regular basis. Career fairs can also be used as a forum for parent counseling.⁽¹⁸⁾

Conclusion

Stress has been described as a “double-edged sword” that can either stimulate and motivate students or drastically reduce their performance.^(16, 27) A middle-ground needs to be sought in order to minimize potentially damaging stress thereby optimizing their output. Fear of failing a course, insecurity concerning professional future, patients not available at prescribed times for treatment or examination and fear of facing parents after failure were found to be amongst the top stress provoking factors in our study. Reforms need be implemented, hopefully reducing stress and burnout amongst dental students—helping them to be more successful as students and, eventually, as dentists.

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