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BRIEF COMMUNICATION

Causes of Stress and Coping Strategies Adopted by Undergraduate Health Professions Students in a University in the United Arab Emirates

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أسباب التوتر النفسي والاستراتيجيات المعتمدة لمواجهتها من قبل طلبة المرحلة الجامعية الأولى للمهن الطبية في إحدى الجامعات في دولة الإمارات العربية المتحدة

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الملخص: الهدف: هدفت هذه الدراسة إلى مقارنة أسباب التوتر والاستراتيجيات المتبعة للتغلب عليها والتي اعتمدتها عينة من طلبة المرحلة الجامعية الأولى للمهن الطبية في جامعة الخليج الطبية، دولة الإمارات العربية المتحدة. **الطريقة:** تم إجراء مسح استطلاعي تطوعي مجهول الاسم خلال الفترة من يناير إلى يوليو 2011، لتحديد أسباب التوتر بين طلبة المرحلة الجامعية الأولى والثانية للطب العام، وطب الأسنان، والصيدلة، وطلاب العلاج الطبيعي (عدد=212). كذلك تمت دراسة الإستراتيجيات المعتمدة باستخدام خلاصة الجرد الذي اعتمد. **النتائج:** كان قلق توقعات المستقبل (54.2%) وتلبية توقعات الأهل (40.1%) أكثر أسباب التوتر. كان سوء التغذية (36.8%) وعدم ممارسة التمارين الرياضية (36.3%) من الأسباب الأخرى المسببة للتوتر. أستخدم الطلبة استراتيجيات متعددة، منها وبصورة أساسية الدين/الصلاة (74.5%)، التخطيط (70.5%)، واتخاذ الخطوات المناسبة (70.5%) للتعامل مع التوتر. كما أشارت الدراسة إلى أنه لا توجد فروقات ملحوظة في استراتيجيات التصدي لعوامل التوتر بين الجنسين أوبين البرامج المختلفة. اعتمد طلبة السنة الأولى (62.5%) على الدعم المعنوي بصورة أكبر ($P<0.05$) من طلبة السنة الثانية (48.5%). **الخلاصة:** استنتجت الدراسة أن الأسباب الرئيسية للتوتر هو القلق بشأن المستقبل وتلبية توقعات الأهل. أغلب الطلبة اتبعوا استراتيجيات إيجابية للتغلب على التوتر وذلك باللجوء للدين والصلاة والتي كانت الأكثر شيوعاً.

مفتاح الكلمات: التوتر؛ سيكولوجي؛ المهن الصحية؛ التعليم الطبي؛ المرحلة الجامعية الأولى؛ سلوك التعامل؛ دولة الإمارات العربية المتحدة.

ABSTRACT: ***Objectives:*** This study aimed to compare causes of stress and coping strategies adopted by a sample of undergraduate health-profession students at the Gulf Medical University, United Arab Emirates. ***Methods:*** An anonymous voluntary questionnaire-based survey was conducted, from January to July 2011, among first- and second-year medicine, dentistry, pharmacy and physiotherapy students (N = 212) to identify causes of stress. Coping strategies were studied using the Brief COPE Inventory. ***Results:*** Worries regarding the future (54.2%) and parental expectations (40.1%) were the major stressors. Poor diet (36.8%) and a lack of exercise (36.3%) were also reported to cause stress. Students used multiple strategies, mainly religion/praying (74.5%), planning (70.5%) and taking action (70.5%) to cope with stress. There were no significant differences observed in the stressors or coping strategies between genders or programmes. First-year students (62.5%) relied on emotional support significantly more ($P<0.05$) than second-year students (48.5%). ***Conclusion:*** The main causes of stress were worries regarding future and parental expectations. The majority of the students used positive coping strategies, with religion/praying found to be the most frequently used strategy.

Keywords: Stress, Psychological; Health Professions; Medical Education, undergraduate; Coping Behavior; United Arab Emirates.

Students in undergraduate health-professions are subjected to many different kinds of stresses. Studies indicate high stress levels in students of medicine,[1,2,3] dentistry,[4] pharmacy[5] and physiotherapy[6] programmes. A high prevalence of depression and anxiety has also been reported in medical students, especially females, compared to age-matched peers in the general

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population.[1] Students cope with stress in different ways. While some studies on medical students have shown more usage of positive coping strategies such as positive reframing, planning and religion,[7,8] others have identified the use of alcohol, tobacco and drugs to cope with stress.[1] Very few studies regarding coping behaviour in students of health professions have been reported from the Arab region.[9] Studying causes of stress and coping strategies used can help in designing appropriate interventions and planning modifications in the curricula to reduce stress and enhance students' wellbeing and learning abilities. This study compared the causes of stress and coping strategies adopted by first and second-year undergraduate health-profession students at the Gulf Medical University in the United Arab Emirates (UAE).

Methods

Between January and July 2011, a cross-sectional survey was carried out using a voluntary, anonymous, self-administered questionnaire, among first and second-year undergraduate medicine, dentistry, pharmacy and physiotherapy students at the Gulf Medical University in the UAE. Ethical approval was obtained from the Research & Ethics Committee of the University (4RC/17/13th Oct 2010). Students were informed about the purpose of the study and verbal student consent was obtained. Factors causing stress were identified using a 22-item questionnaire as described earlier.[10] Stressors were classified into three domains: academic-related, psychosocial and health-related. The Brief COPE Inventory[11] was administered to assess coping behaviours spread over 14 dimensions, including self-distraction, active coping, denial, substance use, emotional support (family and friends), instrumental support (faculty and other institutional resources), behavioural disengagement (giving up coping), venting anger/frustration, positive reframing, planning, humour, acceptance, religion and self-blame. Students were asked to rate items on a 4-point scale, ranging from 'not been doing this at all', 'doing this a little bit', to 'doing this a medium amount' and 'doing this a lot'. For the purpose of analysis, 'not doing this at all/doing this a little bit' were taken as not using the coping strategy while 'doing this a medium amount/doing this a lot' were taken as adopting the strategy. Data were entered into the Predictive Analytics Software, Version 18 (Statistical Package for the Social Sciences, IBM Corp., Chicago, Illinois, USA) and analysed by a statistician. Pearson's chi-square test was used for testing significance. A total of 4 questionnaires were found to be incomplete and so were excluded from the analysis.

Results

All 238 first and second-year undergraduate health-profession students were contacted for the survey. A total of 212 students (112 first-year students and 100 second-year students) completed the survey giving a response rate of 89%. A total of 46.7% of the students were studying medicine, 22.2% dentistry, 16.5% pharmacy and 14.6% were in the physiotherapy programme. The age of the students ranged from 16 to 28 years with 95% of the students aged ≤23 years. The student population was 72% female and the rest was male. Just over half the students (51%) were living at home with their families, and the rest were living in hostels or apartments.

As shown in Table 1, the stressors were found to be very similar in first and second-year students. Among the academic-related stressors, frequency of examinations, time-management and academic workload were identified as the main stressors by both first and second-year students. Among the psychosocial stressors, the main concerns identified were 'worries regarding the future', 'high parental expectations' and 'lack of recreation'. A total of 19.3% of the students were found to be anxious; 18.4% of the students reported 'Difficulty relating to members of the opposite sex'. Poor eating habits, lack of exercise and sleep-related problems were the main health-related issues identified by the students. Tobacco/alcohol abuse was reported by very few students. There were no statistically significant differences in stressors between the genders, and between students in the different programmes or years.

Multiple coping strategies were being used by students to handle stressful situations. As shown in Table 2, the majority of the students were using positive coping strategies. Religion/praying were very important coping strategies for students in both the first (78%) and second (71%) years. Other important coping strategies were planning (76%

Table 1: Comparison of stressors in first and second -year health-profession students at Gulf Medical University

Item	First-year (n = 112) n (%)	Second-year (n = 100) n (%)	Both years (N = 212) n (%)
Academic-related			
High academic workload	21 (18.7)	12 (12)	33 (15.6)
Dissatisfaction with classes	11 (9.8)	9 (9)	20 (9.4)
High frequency of examinations	25 (22.3)	26 (26)	51 (24.1)
Poor performance in examinations	19 (17)	7 (7)	26 (12.3)
Lack of learning material	13 (11.6)	13 (13)	26 (12.3)
Difficulty reading textbooks	17 (15.2)	12 (12)	29 (13.7)
Inability to manage time	21(18.7)	20 (20)	41 (19.3)
Inability to concentrate	11 (9.8)	7 (7)	18 (8.5)
Psychosocial			
Anxiety	24 (21.4)	17 (17)	41 (19.3)
High parental expectations	50 (44.6)	35 (35)	85 (40.1)
Worries about future	56 (50)	59 (59)	115 (54.2)
Problems adjusting with classmates	11 (9.8)	11 (11)	22 (10.4)
Loneliness	9 (8)	12 (12)	21 (9.9)
Financial problems	7 (6.2)	6 (6)	13 (6.1)
Family Problems	6 (5.4)	9 (9)	15 (7.1)
Difficulty relating to members of the opposite sex	20 (17.9)	19 (19)	39 (18.4)
Lack of recreation	31 (27.7)	22 (22)	53 (25)
Health-related			
Lack of healthy diet/ irregular eating habits	44 (39.3)	34 (34)	78 (36.8)
Sleep problems	28 (25)	24 (24)	52 (24.5)
Illness/health problem	6 (5.4)	6 (6)	12 (5.7)
Tobacco/ alcohol/ substance abuse	4 (3.6)	2 (2)	6 (2.8)
Lack of exercise	39 (34.8)	38 (38)	77 (36.3)

and 65%), active coping (71% and 70%), positive reframing (68% and 62%) and seeking instrumental support (56% and 57%) for first- and second-year students, respectively. However, many students in the first and second year were also attempting self-distraction (52% and 51%), blaming themselves (50% and 42%), coping by venting their anger/ frustration (35% and 30%) and some (28% and 25%) of the students had even given up coping. There were no statistically significant differences in coping strategies used between the genders or between students in different programmes. No significant association was seen between stress and any specific coping strategy. The only significant difference (P <0.05) was the higher numbers of first-year students (62.5%) seeking emotional support compared to second-year students (48.5%).

Discussion

Students in the health-profession programmes are not only required to adjust to the challenges of the academic environment but also usually lack time for recreation. Stress among health-profession students has been reported, in earlier studies, to be associated with psychological morbidity.[6,7,10] Students' own expectations and motivation are known to be affected by parental expectaions.[12] In this study, psychosocial causes such as worries regarding the future, and high parental expectations were the main stressors for both first- and second-year health-profession students. High parental expectations were also identified as an important stressor for medical students in Nepal.[7] Students in health-profession programmes are preparing for specific careers and thus should feel confident about their future. However 'worries about the future' were reported by both first- and second-year students and were found to be higher among second-year students (though not statistically significant). This finding could not be explained and needs to be probed further. The lack of recreation reported by students is probably due to a lack of time due to the academic workload. Poor eating habits

Table 2: Coping strategies used by first- and second-year health-professions students at Gulf Medical University

Coping strategy	Details	Percentage of students who adopt the strategy		
		First-year (n = 112)	Second-year (n = 100)	Both years (N = 212)
Active coping	Doing something about the situation, taking action to negate the stressor	71	70	70.5
Emotional support*	Getting emotional support/advice from friends and family	62.5	48.5	55.5
Instrumental support	Getting help and advice from faculty members, student advisors, counsellors or peers	56	57	56.5
Self- distraction	Doing something to take your mind off the situation such as going to movies, watching TV, shopping, sleeping, listening to music	52	51	51.5
Alcohol/tobacco/substance abuse	Using tobacco/alcohol/drugs to feel better	5.5	6	5.75
Denial	Refusing to believe it happened, not accepting the situation	15	16	15.5
Given up coping	Given up the attempt to do anything about the situation, giving up trying to deal with it	28	25	26.5
Venting	Expressing negative feelings: showing anger at things/ people, swearing, bad language	35	30	32.5
Positive reframing	Seeing something good in what is happening, learning from the experience	68	62	65
Planning	Planning a strategy on what to do, how to deal with the situation	76	65	70.5
Humour	Making fun of the situation	38	29	33.5
Acceptance	Learning to live with the situation, accepting it	65	58	61.5
Religion	Praying/meditating	78	71	74.5
Self-blaming	Blaming yourself for getting into the situation or for handling it badly	50	42	46

**Significantly different (P<0.05) between the two years.*

are often seen among university students especially those living alone in hostels/apartments and is not surprising. Difficulties in dealing with members of the opposite sex may be due to the fact that most students come from single-gender high schools. The same problem has also been reported in Saudi students studying in Australia.[13] Sleep-related problems are a worrying finding since lack of sleep is known not only to impair academic performance but also to be associated with a higher incidence of psychological disorders including suicide ideation.[14]

Multiple coping strategies were adopted by the students. Most of them were positive and included praying, taking action to negate the stressor, planning and learning from the experience. Religion or praying as a coping mechanism is not unexpected since most of the students are Muslim and the UAE offers ample opportunities to practice this religion. These findings are similar to reports from Malaysia[8] and Jordan[15] on medical students. The strategies of active coping, positive reframing and seeking help have also been identified as the major strategies used by medical students in Nepal[7] and Malaysia.[8] It was interesting to note that emotional support was an important coping mechanism for students in the first year but significantly fewer students in the second year adopted it as a coping strategy. This could be an indication of students' maturation. Many students in the first year are away from their family for the first time and may need more emotional support compared to second-year students. While self-blame, which was used by many students is a negative coping mechanism, self-distraction and venting can also be negative if used exclusively. Psychological help and counselling may help students handle stress and anger better.

Substance abuse was identified by very few students as a health-related concern or as a coping

strategy. These findings are similar to reports from Nepal[7] where 3.4% of students reported abusing alcohol/tobacco, but are much lower than reports from USA and Canada[1] where up to 20% of students have reported tobacco and alcohol abuse. However, it is also possible that students may not have disclosed such issues for cultural reasons.

The limitations of this study are its cross-sectional nature and the fact that it was based entirely on student responses. The conclusions drawn are from the experience of one university and may not be applicable to other universities.

Conclusion

First- and second-year undergraduate health-professions students at the Gulf Medical University in the UAE reported worries about the future, high parental expectations, lack of recreation and frequency of examinations as the major causes of stress. Irregular eating habits, a lack of exercise and sleep problems were the main health-related concerns. While the majority of the students were using positive coping strategies such as praying/meditating, planning and taking action to resolve the problem, many were also blaming themselves and some had given up coping entirely. Interventions such as teaching students about stress management and developing student-support groups led by trained individuals may help health-profession students to learn self-care and cope better with stress.

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