

ORIGINAL ARTICLE

PATTERN OF PERCEIVED STRESS IN SAUDI UNDERGRADUATES IN UMM AL-QURA UNIVERSITY HEALTHCARE SCHOOLS

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Background: In view of a variety of reports emphasizing the role of stress in health and disease, it was planned to determine the perceived stress in Umm Al-Qura University (UQU) undergraduate students of healthcare schools (Faculty of Pharmacy, and Department of Laboratory Medicine, Faculty of Applied Medical Sciences). **Methods:** Perceived stress scale (PSS-14) was used to assess the perceived stress responses as Never, Rarely, Sometimes, Often, and Always assigned with scores respectively as 0, 1, 2, 3 and 4. The operational cut off values demarcated the stressed from unstressed subjects. Descriptive statistical procedures and Games-Howell post-hoc test were used for analyzing the PSS responses. **Results:** The PSS responses showed Mean±SD score values as 24.56±6.98, SEM as 0.62 and range value of 7–46 (Median=25). Score values of 23.53–25.59, 23.33–25.79, and 22.93–26.18 respectively were 90%, 95%, and 99% CI. Ratio between unstressed and stressed subjects was 2.6:1.0, and Games-Howell post-hoc test showed highly significant results among several groups. **Conclusion:** Undergraduate students from UQU healthcare schools showing mean score value of stress less than the cut off upper value verifies productivity in academic and other activities that is helpful for the students to cope and manage the stress conditions.

Keywords: Perceived stress scale (PSS), responses to PSS, healthcare undergraduate students.

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INTRODUCTION

Indeed stress is a part of normal life. However, when it exceeds certain limits, it might not remain harmless. Students have been found to have high levels of stress throughout their professional training^{1–3}, and hence, it has been revealed that the assessment of stress is usually difficult owing to the multifactorial nature of the stress in students.⁴ It was revealed that academic performance is associated with the stress and coping the stress/stressful conditions have extensively been studied by various investigators.^{1, 4–10} In view of this, carrying out further research on effects/association of stress in those related to future professional health provision should be quite significant.

Perceived stress has been studied by various investigators.^{11,12} The perceived stress employing perceived stress test measured in undergraduate students⁹ present interesting and valuable information. People searching for perfectionism in view of their past achievements and future expectations are afflicted with the perceived stress. People perceiving quite threatening events due to their plans, thoughts and beliefs show perceived stress. Socializing has been considered a salient factor while interpreting the relationship between perceived stress and vigorous physical activity.⁹

The predictors of decrease in physical activity, level/measurement of physical activity¹³, sedentary behaviour¹⁴, and change in physical activity with the change in diet and weight¹⁵ are some of the important aspects. Thus, the transition from adolescence to adulthood needs to be managed by maintaining the level

of physical activity from adolescence into the phase of adulthood.¹⁶

In view of a variety of reports emphasizing the role of stress in health and disease, it was planned for the present study to evaluate the PSS in undergraduate students of healthcare schools (Laboratory Medicine and Pharmacy) in Umm Al-Qura University for investigating the ways to manage the stress conditions.

MATERIAL AND METHODS

The current study was done in the Department of Physiology, Faculty of Medicine, Umm Al-Qura University (UQU), Makkah, Saudi Arabia. Male unmarried students (n=126) in the second semester of second year Healthcare Schools (Faculty of Pharmacy, and Department of Laboratory Medicine, Faculty of Applied Medical Sciences) were included in this study. The age range of these undergraduate students was 18–21 years. The students were asked about the ease and difficulty they found and what were their feelings during the last month. The perceived stress scale (PSS) comprised fourteen questionnaire statements. Responses of these PSS statements were statistically analyzed. Informed consent was obtained from the students.

To confirm that the subjects going to be included in the study were normal healthy or having complications/ disorders, they were thoroughly checked. Only the healthy students were included. Range values for body weight (Kg) were 51 and 156; body height (meters) as 1.53 and 1.93; and body mass index (BMI, Kg/m²) as 17 and 45. Perceived stress scale (PSS-14) was used for the determination of perceived stress.¹⁷

Fourteen questionnaire statements and the responses to perceived stress scale (PSS) were followed¹⁸. Division of the PSS responses were: ‘Never’, ‘Rarely’, ‘Sometimes’, ‘Often’, and ‘Always’ with corresponding scores respectively as ‘0’, ‘1’, ‘2’, ‘3’ and ‘4’ for one month prior to the study. The proforma was filled for PSS responses for all subjects included. The internal consistency of 0.85 (Cronbach α coefficient) for the PSS, and the test-retest reliability of 0.85 during short retest interval was adapted.¹⁷ The PSS Questionnaire statements (1–14) and responses (scores) in male healthcare undergraduate students, is the same as we used in our already published work for the assessment of perceived stress for the undergraduates in the UQU-College of Medicine.¹⁸

The PSS responses in the form of scores 0, 1, 2, 3 and 4 were added separately and converted into percentages. The comparison for stressed and unstressed subjects and dispersion of the total scores as PSS responses were then statistically analyzed. The range of scores, mean values of scores, standard deviation, standard error of mean, median and values for confidence intervals were obtained. Operational cut off value separated the stressed and unstressed subjects and hence dividing the score values into two halves. i.e. the range of the PSS scores was 0 to 56 and the first half up to 28 comprised the unstressed subjects whereas the later half from 29–56 comprised the stressed subjects. The PSS responses were analyzed for comparing five score groups by the Games-Howell post-hoc test.

RESULTS

The PSS responses showed Mean±SD score values as 24.56±6.98, SEM as 0.62 and range value of 7–46 (Median=25). Table-1 presents the values of 23.53–25.59, 23.33–25.79 and 22.93–26.18 respectively were 90%, 95% and 99% CI.

Table-1 shows the subjects without stress (n= 91, 72.22%) and stress (n=35, 27.78%). It was found that the ratio between unstressed subjects and stressed subjects was 2.6:1.0.

Table-2 presents the responses to PSS in the form of scores for several score criteria. The mean values for never (19.78), rarely (35.86), sometimes (37.07), often (22.14) and always (11.14) collectively for positive and negative responses were compared using Games-Howell post-hoc test where F_s determination for df:4 among groups showed p highly significant. Comparisons showed significant variations for Never vs Rarely, Never vs Sometimes, Never vs Always, Rarely vs Often, Rarely vs Always, Sometimes vs Often, Sometimes vs Always, and Often vs Always and non-significant variations ($p>0.05$) for Never vs Often, and Rarely vs Sometimes. It was noted that the positively stated items (4, 5, 6, 7, and 10) were significantly more compared to negatively stated items (1, 2, 3, 8, 9, 11, 12, 13, and 14).

Mean score values±SEM (24.56±0.62) showed that the undergraduate students without stress were significantly more.

Table-1: Statistical analysis for responses to perceived stress scale in male undergraduate students in UQU Healthcare Schools

Parameter	Values
Mean	24.56
SD	6.98
SEM	0.62
Range	7–46
Median	25
90% CI	23.53–25.59
95% CI	23.33–25.79
99% CI	22.93–26.18
Total number of subjects	126
Unstressed subjects	91 (72.22%)
Stressed subjects	35 (27.78%)

Subjects labelled as stressed and unstressed on the basis of operational cut off value; total number of subjects: 126

Table 2: The PSS responses in male healthcare undergraduate students [n (%)]

QSN0	PSS Responses				
	Never	Rarely	Sometimes	Often	Always
1	22 (17.47)	35 (27.79)	38 (30.17)	22 (17.47)	9 (7.15)
2	38(30.17)	36 (28.58)	32 (25.41)	11 (8.73)	9 (7.15)
3	18 (14.29)	31 (24.61)	44 (34.94)	20 (15.88)	13 (10.32)
4	18 (14.29)	44 (34.94)	34 (27.00)	24 (19.06)	6 (4.76)
5	24 (19.06)	38 (30.17)	44 (34.94)	11 (8.73)	9 (7.15)
6	33 (26.20)	44 (34.94)	26 (20.64)	14 (11.12)	9 (7.15)
7	13 (10.32)	40 (31.76)	42 (33.35)	26 (20.64)	5 (3.97)
8	18 (14.29)	43 (34.14)	42 (33.35)	17 (13.50)	6 (4.76)
9	7 (5.56)	22 (17.47)	44 (34.94)	33 (26.20)	20 (15.88)
10	19 (15.09)	33 (26.20)	41 (32.55)	25 (19.85)	8 (6.35)
11	25 (19.85)	32 (25.41)	31 (24.61)	24 (19.06)	14 (11.12)
12	4 (3.18)	39 (30.97)	45 (35.73)	22 (17.47)	16 (12.70)
13	10 (7.94)	29 (23.03)	21 (16.67)	42 (33.35)	24 (19.06)
14	28 (22.23)	36 (28.58)	35 (27.79)	19 (15.09)	8 (6.35)

Figures in parentheses for PSS (perceived stress scale) responses denote percent responses; total number of subjects: 126;

QS: Questionnaire Statement

DISCUSSION

It is important to note that the number of unstressed undergraduate students in the present investigation was more than double the number of stressed undergraduate students in healthcare schools that explains the performance and progress of these students.

The present investigation is in accordance with the previous investigations^{4,3,19} though it differs in the extent of perceived stress we investigated for the undergraduates in the UQU-College of Medicine¹⁸. The stress related disorders are usually considered as the major leading causes of disability expected by the year 2020²⁰. However, the undergraduate students as whole showing mean score value (24.56) as less than the cut off upper value of 28 might explain the higher performance of the students that has been revealed previously that academic performance is associated with the stress^{8,21}.

In view of above given information, less level of stress in healthcare students is productive for their academic and other activities. The positively stated items found significantly more compared to negatively stated items in our present report seem mainly due to various potential factors that help and provide the ability to students for coping with the stressors.

The present study also points out about the significance of coping strategy of students obtained from academic progress and family and support services beside the personal zest and hardworking of students- a technique of coping stressful conditions^{4,14,22}

Measurements by perceived stress test as carried out in undergraduate healthcare students in the current study have been performed by other investigators^{4,5}. This study however, provides valuable information for future studies as well for categorizing and coping the stress conditions.

CONCLUSION

Undergraduate students in UQU healthcare schools showing mean score value of stress less than the cut off upper value verifies the productivity in academic and other activities helpful for the students to cope and manage the stress conditions.

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