QUALITY OF LIFE OF MEDICAL AND DENTAL STUDENTS OF PESHAWAR

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ABSTRACT

Objective: To find out the Quality of Life (QoL) of medical and dental students of Peshawar.

Methodology: This cross-sectional study included students of public and private sector medical and dental colleges of Peshawar. To assess QoL, World Health Organization Quality of Life (WHOQoL-BREF) instrument was used. This instrument comprises of 26 items, which measure physical health, psychological health, social relationships and environment. Each of the 26 items was rated from 1-5 on a five-point scale. The analysis was carried out using SPSS v.20.

Results: The mean age of the sample (n=883) was 20.7 ±1.7 years with majority of female students (n=629, 71.2%). The Cronbach's alpha reliability of WHOQoL-BREF in our study was 0.910. Medical students had significantly more impairment in the social relationship domain of QoL than dental students (p =.008). Male students had significantly better quality of life in the physical health domain of QoL than female students (p =.003). Similarly, students of private sector had better quality of health in physical health and environment domain of QoL as compared to students of public sector (p =.002 and .008, respectively). There was no significant difference between pre-clinical and clinical students regarding their quality of life.

Conclusion: Students from dental colleges had higher scores in the domain of social relationship but female students had poor scores in the domain of physical health. It was also observed that students from public sector colleges had higher mean scores in the domain of environment.

Key Words: Quality of life, Medical students, Dental students, Peshawar

INTRODUCTION

Medical students are budding professionals who have to undergo consistent pressure starting from their undergraduate years. Majority of students acquire the skill to absorb the stress of their professional life in a positive manner and nurture their performance. However, few individuals are unable to cope with this stress. Medical students encounter greater amount of stress and depression as compared to general population[1-4]. Studies suggest that increasing academic pressure, substantial workload, possible financial crises, competitiveness among students and excessive class contents compromise students' physical health and psychological steadiness right from the beginning[1-5]. Examinations, hectic schedule, long classes, perceived mistreatment and bullying by classmates or faculty (particularly verbal abuse and unfair tactics) are common stressors faced

by a medical student[5-7]. In a study, more than a third of medical students thought of leaving their institute and a quarter of them stated that they would not have chosen this profession, if they had known about the extent of pressure during their study period[8]. Persistent higher level of stress can have negative long-term effect on medical students' behavior, academics, physical and psychological health[1,9]. Sleep disturbances are also commonly seen among medical students[10]. This may end up in depressive episodes and can lead to increased risk of suicidal ideation and subsequently suicidal attempts among medical students[2,11,12].

In this context, assessing QoL of medical and dental students can give us an insight into student's physical health, psychological firmness and social wellbeing. It can help us identify up to what extent academics, hectic schedule, workload and financial crises can affect medical students. These findings can assist us to promote

well-being of medical and dental students, which will eventually benefit the patients and the profession[13].

Thus, it has increasingly become an important research area to explore medical and dental students' quality of life (QoL) which is defined by World Health Organization (WHO) as, "an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns"[14]. A standardized instrument has been developed by WHO to assess QoL[15,16]. A number of studies have been conducted using this instrument to assess QoL worldwide including Pakistan[17-20]. However, none has been carried out in the undergraduate medical and dental students of public and private sector colleges in Peshawar. Therefore, we decided to find out the QoL of medical and dental students of Peshawar and compare the QoL of medical and dental students of public and private sector institutes.

METHODOLOGY

A cross sectional survey was conducted to recruit students from all public and private sector medical and dental colleges of Peshawar, Pakistan from January to March 2017. These include Khyber Medical College, Khyber Dental College, Peshawar Medical College, Peshawar Dental College, Sardar Begum Dental College and Kabir Medical College. Ethical Review Committee of Peshawar Medical College approved the study and mentioned institutions were visited after permission from the concerned authorities.

All the students who participated in the study were informed about the objectives of the study and informed consent was obtained. Only those students were excluded who (i) were studying in the first year and their tenure was less than 3 months in a medical college and (ii) who recently underwent a traumatic event to avoid confounding with their post-traumatic stress.

The World Health Organization Quality of Life (WHOQoL-BREF) was used to assess the quality of life of medical and dental students, which is an empirical instrument to assess QoL[15,16]. It comprises of 26 items and measures the domains of physical health; psychological health; social relationships; and environment in addition to measuring general QoL. Each item is scored on the scale of 1-5. Higher scores indicate better quality of life and vice versa.

The analysis of the data was carried out using SPSS v.20. Basic variables were analyzed using descriptive statistics for finding frequencies and percentages, mean and standard deviation of QoL and its domains. Independent sample t-test was used to find out the mean differences based on gender; medical and dental students; public and private sector institutions; and the pre-clinical and clinical years of education. The test was also applied on separate sample of medical students and dental students, respectively. The results were considered significant at p <0.05 level

RESULTS

A total of 905 students were invited to participate in the study, out of which 883 completed the questionnaire, therefore the response rate was 97.6%. Majority of the sample comprised of female students (n=629, 71.2%).

The mean age of the sample was 20.7 ±1.7 years with the age range of 17 to 25 years. Majority were medical students (n=613, 69.4%) and were from private sector institutes (n=554, 62.7%). The Cronbach-alpha reliability for WHOQoL-BREF was .910. High QoL was reported in 484 (53.8%) students. Further details are given in Table 1.

Comparing medical and dental students, the results showed that dental students had significantly better results in the social relationship domain of QoL than medical students (p =.008). Similarly, female students had significantly more impairment in the physical health domain of QoL than male students (p =.003).

Students of public sector had more impairment in physical health and environment domain of QoL as compared to students of private sector (p =.002 and .008, respectively). There was no statistical difference between pre-clinical and clinical students regarding their quality of life (Table 2).

Among medical students, female students had more impairment in QoL than male students but it was statistically significant in the domains of physical and psychological health, as well as overall QoL (p <0.05). Students of private sector had a better quality of life as compared to student of public sector and was statistically significant in all domains except psychological health where though it was better but not statistically significant. There was no significant difference between pre-clinical and clinical medical students regarding their quality of life (Table 3).

Among dental students, female students had better quality of life than male students but it was statistically significant in general QoL and in the environment domain (p <0.05). Public sector dental students showed better QoL as compared to students of private sector and was statistically significant in general QoL and in the domains of psychological health and social relationship as well as overall QoL. There was no significant difference between pre-clinical and clinical dental students regarding their quality of life (Table 4).

Table 1: Demographic details (n=883)

S.No.	Variables			Frequencies (Percentages) of Students
1	Gender		Male	254 (28.8%)
			Female	629 (71.2%)
2	Institutes		Public Sector	329 (37.3%)
			Private sector	554 (62.7%)
3	Colleges		Medical	613 (69.4%)
			Dental	270 (30.6%)
4	Year Of Schooling in MBBS	Pre-Clinical	1st year	247 (39.5%)
			2nd year	191 (30.5%)
		Clinical	3rd year	106 (16.9%)
			4th year	50 (8.0%)
			5th year	32 (5.1%)
5	Year of Schooling in BDS	Pre-Clinical	1st year	79 (28.9%)
			2nd year	77 (28.2%)
		Clinical	3rd year	60 (22.0%)
			4th year	57 (20.9%)
6	General QoL Mean= 7.69 ± 1.80			Low= 285 (32.3%) High= 598 (67.7%)
	Domain 1 (Physical Health) Mean= 13.82 ± 2.53			Low= 315 (35.7%) High= 568 (64.3%)
	Domain 2 (Psychological Health) Mean= 13.68 ± 2.88			Low= 325 (36.8%) High= 558 (63.2%)
	Domain 3 (Social Relationship) Mean= 13.99 ± 2.76			Low= 250 (28.3%) High= 633 (71.7%)
	Domain 4 (Environment) Mean= 13.91± 2.82			Low= 328 (37.1%) High= 555 (62.9%)
	Overall QoL Mean= 63.09± 10.26			Low= 399 (45.2%) High= 484 (54.8%)

Table 2: Mean differences of QoL and its domains on demographic variables of the sample (n=883)

Variables	Students		t value (sig)	Gender		t value (sig)	Institutions		t value (sig)	Years		t value (sig)
	Medi-cal M(SD)	Dental M(SD)		Male M(SD)	Fe-male M(SD)		Pri-vate M(SD)	Public M(SD)		Pre-Clin M(SD)	Clini-cal M(SD)	
General QoL	7.64 (1.88)	7.79 (1.57)	-1.138 (.255)	7.63 (1.98)	7.71 (1.71)	-.580 (.562)	7.74 (1.81)	7.60 (1.77)	1.139 (.255)	7.69 (1.85)	7.68 (1.69)	.007 (.994)
Domain 1 (Physical Health)	13.82 (2.56)	13.83 (2.43)	-.074 (.941)	14.22 (2.50)	13.66 (2.52)	3.004* (.003)	14.03 (2.40)	13.48 (2.68)	3.122* (.002)	13.82 (2.52)	13.84 (2.53)	-.103 (.918)
Domain 2 (Psychological Health)	13.62 (2.95)	13.81 (2.70)	-.926 (.355)	13.91 (2.96)	13.58 (2.84)	1.544 (.123)	13.69 (2.90)	13.67 (2.85)	.096 (.923)	13.73 (2.88)	13.58 (2.88)	.726 (.468)
Domain 3 (Social Relationship)	13.83 (2.79)	14.36 (2.68)	-2.641* (.008)	14.01 (3.03)	13.98 (2.65)	.113 (.910)	14.02 (2.77)	13.94 (2.76)	.409 (.683)	14.01 (2.76)	13.95 (2.76)	.273 (.785)
Domain 4 (Environment)	13.82 (2.92)	14.11 (2.55)	-1.401 (.161)	13.85 (2.84)	13.93 (2.80)	-.398 (.691)	14.10 (2.70)	13.58 (2.96)	2.652* (.008)	13.94 (2.82)	13.85 (2.80)	.476 (.634)
Overall QoL	62.73 (10.62)	63.90 (9.38)	-1.572 (.116)	63.62 (10.66)	62.87 (10.10)	.989 (.323)	63.57 (10.04)	62.27 (10.6)	1.828 (.068)	63.18 (10.27)	62.90 (10.27)	.384 (.701)

* Sig: p <.05 level

Table 3: Mean differences of QoL and its domains on study variables of medical students (n=613)

Variables	Gender		t value (sig)	Institutes		t value (sig)	Years		t value (sig)
	Male M(SD	Female M(SD		Private M(SD)	Public M(SD)		Pre-clinical M(SD)	Clinical M(SD)	
General QoL	7.69 (2.01)	7.61 (1.82)	.496 (.620)	7.79 (1.87)	7.38 (1.89)	2.610* (.009)	7.63 (1.96)	7.65 (1.71)	-.092 (.927)
Domain 1 (Physical Health)	14.37 (2.49)	13.54 (2.56)	3.806* (.000)	14.18 (2.47)	13.19 (2.62)	4.651* (.000)	13.79 (2.58)	13.89 (2.54)	-.453 (.651)
Domain 2 (Psychological Health)	14.05 (2.92)	13.40 (2.95)	2.589* (.010)	13.77 (3.00)	13.35 (2.86)	1.716 (.087)	13.69 (2.91)	13.45 (3.06)	.932 (.352)
Domain 3 (Social Relationship)	13.96 (2.91)	13.76 (2.72)	.841 (.400)	14.01 (2.86)	13.50 (2.62)	2.204* (.028)	13.87 (2.83)	13.73 (2.67)	.574 (.566)
Domain 4 (Environment)	14.04 (2.80)	13.71 (2.97)	1.334 (.183)	14.10 (2.84)	13.32 (3.00)	3.200* (.001)	13.81 (2.92)	13.85 (2.91)	-.157 (.876)
Overall QoL	64.11 (10.41)	62.02 (10.67)	2.312* (.021)	63.85 (10.47)	60.73 (10.61)	3.528* (.000)	62.79 (10.69)	62.57 (10.48)	.241 (.810)

* Sig: p <.05 level

Table 4: Mean differences of QoL and its domains on study variables of dental students (n=270)

Variables	Gender		t value (sig)	Institutes		t value (sig)	Years		t value (sig)
	Male M(SD	Female M(SD		Private M(SD)	Public M(SD)		Pre-clinical M(SD)	Clinical M(SD)	
General QoL	7.35 (1.82)	7.88 (1.50)	-2.105* (.036)	7.62 (1.66)	8.05 (1.39)	-2.216* (.028)	7.83 (1.50)	7.74 (1.65)	.448 (.655)
Domain 1 (Physical Health)	13.59 (2.47)	13.88 (2.42)	-.752 (.453)	13.67 (2.21)	14.08 (2.72)	-1.370 (.172)	13.90 (2.37)	13.75 (2.52)	.497 (.619)
Domain 2 (Psychological Health)	13.31 (3.07)	13.92 (2.61)	-1.399 (.163)	13.48 (2.65)	14.32 (2.71)	-2.541* (.012)	13.83 (2.82)	13.79 (2.55)	.129 (.898)
Domain 3 (Social Relationship)	14.22 (3.54)	14.39 (2.48)	-.389 (.697)	14.03 (2.55)	14.85 (2.81)	-2.460* (.015)	14.39 (2.53)	14.31 (2.88)	.237 (.813)
Domain 4 (Environment)	12.99 (2.87)	14.34 (2.42)	-3.335* (.001)	14.10 (2.36)	14.12 (2.82)	-.062 (.951)	14.31 (2.47)	13.84 (2.64)	1.494 (.136)
Overall QoL	61.45 (11.60)	64.41 (8.80)	-1.960 (.051)	62.91 (8.91)	65.42 (9.90	-2.177* (.030)	64.26 (8.94)	63.43 (9.96)	.714 (.476)

* Sig: p <.05 level

DISCUSSION

This study was conducted to find out QoL of medical and dental students of Peshawar. The reliability of WHOQoL-BREF in our study was greater than the reliability of the instrument used in the studies conducted in China and Iran (0.731 & 0.89 respectively)[13,19]. In our study, domain of social relationship had highest mean score while the domain of psychological health had lowest mean score. A study from Karachi also showed psychological health domain to have the least score while assessing quality of life in medical students[17].

Non-significant difference was found in the domains of physical health, psychological health and environment between medical and dental students in our study, which is in contrast with the findings of a study in India that reported a significant difference in physical health and environmental domains of QoL[21].

Our study found that female students had significantly more impairment in the physical health domain of QoL than male students in the overall sample, which is similar to the findings of an Indian study[21]. In the medical students' sample of our study, males were reported to have significantly better results in the do-

mains of physical health and psychological health, and in overall QoL, which is similar to a study by Chazan et al[22] who has described female medical students to have lowest QoL scores. Similarly, a Chinese study has reported impaired QoL in female medical students in the domains of physical health and psychological health[13]. Our study found that among dental students, female students had better quality of life than male students and it was statistically significant in general QoL and in the environment domain but our results are in contrast with findings from another study where female dental students had better quality of life in social relationship domain of QoL[23].

Students of private sector institutes showed statistically significant results as compared to students of public sector in the physical health and environment domain of QOL, in our study. No study has compared these two sectors in terms of QoL, to the best of our knowledge.

In our overall sample, non-significant difference reported between pre-clinical and clinical year students is in contrast with the findings of a study from India that reported significant difference in psychological health domain of QoL with the year of study[21]. The medical students' sample also showed no significant difference between pre-clinical and clinical year students while the study of Yang et al[13] showed significant difference in the psychological health and social relationship domain of QoL in medical students of third year. Similarly, the dental students' sample showed no significant difference between pre-clinical and clinical year students, which is in disagreement with the findings of Andre et al[23], that showed that physical health domain was significantly higher for fourth year dental students and psychological health domain of QoL was significantly lower for third year students than first year dental students.

CONCLUSION

Considering the Cronbach's alpha value, WHO-QoL-BREF can be effectively used in our population. As per the domains of the instrument, social relationship domain of QoL was significantly impaired in medical students; physical health was significantly impaired in female and public sector students of Peshawar; and the domain of environment was impaired in students of public sector institutes of Peshawar.

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