

Quality of life of Pakistani medical students studying in a private institution

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Abstract

Objectives: To find the quality of life of medical students using a World Health Organisation questionnaire.

Methods: The cross-sectional study was conducted in February 2015 at Shifa College of Medicine, Islamabad, Pakistan, and comprised students studying in an integrated medical education system. The shortened version of World Health Organisation Quality of Life questionnaire comprising 26 items was used. Consecutive non-probability sampling was used to collect data which was analysed using SPSS 21.

Result: Out of 417 medical students, 185(44.4%) were male and 232(55.6%) were female. Of them, 165(39.6%) were in pre-clinical years, while 252(60.4%) were in clinical years. Overall, 347(83.2%) students rated their quality of life as "good" or "very good". Environmental domain had the highest mean score of 70.43±16.38 while Psychological Health domain had the lowest mean score of 66.48±15.64.

Conclusion: Medical education affects students' health, thus their quality of life varies. Identification of this is very important, since long-term stress can induce some permanent personality changes in individuals.

Keywords: Education, Medicine, Pakistan, Quality of life. (JPMA 66: 579; 2016)

Introduction

Medical Students encounter tremendous amount of stress during their medical education. Examination, hectic schedule and long classes are the three most common causes of stress in the life of a Pakistani medical student.¹ According to various studies, it has been estimated that medical students are prone to a greater degree of emotional and psychological disturbance when compared with the general population.²⁻⁴ Prolonged periods of higher stress levels in students can have negative long-term effect on their behaviour, learning ability and academics and this ultimately would result in poor patient care in the future when these students qualify as physicians, residents and consultants.² Because of the higher degree of stress, medical students are more prone to burnout,⁵ stress,⁴ suicidal ideation⁶ and depression⁷ compared to the general population.

Quality of life (QOL) is defined by the World Health Organisation (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".⁸ WHOQOL-BREF, the brief version of the WHOQOL-100 questionnaire, is an international cross-culturally comparable QOL assessment instrument. Numerous studies have been

done to assess QOL in different populations using WHOQOL-BREF. Although studies have been done using WHOQOL-BREF to assess QOL of medical students,⁹⁻¹¹ but few studies have been done to focus on QOL of Pakistani medical students. This was the primary objective of the current study. The secondary objective was to determine its association with gender and year of medical education.

Subjects and Methods

The cross-sectional study was conducted in February 2015 at Shifa College of Medicine, Islamabad, Pakistan. Using WHO sample size calculator, keeping confidence level at 95%, mean score of social relationship 63.23±10R, and absolute precision required 1, the sample size calculated was 400. Our questionnaire comprised Demographic component and WHOQOL-BREF instrument. The demographic component had questions regarding age, gender and year of medical education. WHOQOL-BREF instrument comprises 26 items, covering environmental domain (8items), physical health domain (7 items), psychological health domain (6 items) and social relationship domain (3 items) etc. Each item in WHOQOL-BREF is scored from 1 to 5 on a response scale in the order of increasing frequency. There are also two items that were examined separately: question 1 asked about an individual's overall perception of QOL, and question 2 asked about an individual's overall perception of his or her health. Cronbach's Alpha value for the questionnaire was found to be 0.777. Cronbach's alpha coefficient >0.7 is considered a desirable reliability estimate.^{12,13}

Consecutive non-probability sampling was used to collect

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data. The data was collected spontaneously from all the participants who were given 15 minutes to complete the questionnaire. Fully trained surveyors were present during the survey so that if there were any queries regarding the questionnaire, they could be answered on the spot. Informed consent was obtained from all the participants and they were assured of confidentiality. The data obtained was stored and recorded anonymously. Ethical approval was obtained from the institutional board.

Only completed questionnaires were included for analysis which was done using SPSS 21. SPSS syntax version given in WHOQOL-BREF manual was followed and used to calculate the domain scores. Raw domain scores were then transformed to a 4-20 score, according to the guidelines. The mean score of items within each domain was used to calculate the domain score. These scores were then transformed linearly to a 100-scale using the below formula, with 100 being the most favourable score, and 0 being the least favourable score.

Transformed score = (Score-4) X (100/16).

Descriptive statistics were calculated for both qualitative and quantitative variables. Mann-Whitney test was applied to determine the association of gender with different QOL domains. Kruskal-Wallis test was used to determine the association of Year of medical education with different QOL domains. $P < 0.05$ was considered statistically significant.

Results

Of the 480 questionnaires distributed, 417 (86.87%) qualified for analysis. The overall mean age of the participants was 21.07 ± 1.70 year. Out of 417, 185 (44.4%) were male medical students and 232 (55.6%) were females. Besides, 82 (19.7%) students were in first year, 83 (19.9%) in second year, 88 (21.1%) in third year, 78 (18.7%) in fourth year and 86 (20.6%) in the final year.

Overall, 347 (83.2%) students rated their life as "good" or "very good"; 278 (66.7%) were "satisfied" or "very satisfied" with their health. Environmental domain had the highest overall mean score of 70.43 ± 16.38 followed by Physical

domain 69.39 ± 13.89 , Social Relationship domain 68.68 ± 20.73 and Psychological Health domain 66.48 ± 15.64 (Table).

The scores of different years were found to be significantly different ($p < 0.05$) in all the four domains. The male gender had significantly higher score ($p < 0.05$) in Physical Health domain, while females had significantly higher score ($p < 0.05$) in Social Relationship domain.

Discussion

The response rate in our study was 86.87%, which is markedly high and suggests that the collected data is adequately representative of the targeted population and also reflects the enthusiasm of the students to actively participate in researches being conducted on them, especially those that sought to find their health status.

The mean age of the participants was 21.07 ± 1.70 years, which shows that the students were relatively younger than the students on whom other studies have been done.^{14,15} The younger the person is, the more susceptible to peer pressure, to develop bad habits like drug addictions, and, if not properly channelled, the stress can even lead to suicidal ideation.¹⁶ It has been observed that psychological stress, if seen during the first year of medical school, is a risk for emotional disturbance during postgraduate training.¹⁷ Hence, it has been advised to identify possibly stress-prone students early in their medical training and cater to their problems accordingly.¹⁷

In our study, 44.4% students were male while 55.6% were female. In a study conducted in Brazil, there was unequal participation of students from both genders, with marked female predominance and the results could therefore be not unanimously applied to the participants of one specific gender, since females were more, their level of stress as a whole would definitely add up to be more than that compared with males.¹⁴

In terms of year of education, 19.7% medical students were in the first year, 19.9% were in second year, 21.1% were in third year, 18.7% were in fourth year and 20.6% were in the final year. Hence, there was almost equal

Table: Domain scores of medical students in different years.

WHOQOL-BREF Domains	First	Second	Third	Fourth	Fifth
Physical Health	65.2±12.89	70.78±13.08	72.65±14.87	67.54±14.96	70.4±12.55
Psychological Health	63.36±13.76	68.02±14.81	70.03±17.07	68.22±13.55	62.79±17.31
Social Relationship	67.99±18.86	72.09±18.79	76.89±20.28	69.55±17.40	56.88±22.47
Environment	67.04±14.59	72.1±14.42	79.19±17.59	70.23±13.67	63.26±16.70

WHOQOL-BREF: World Health Organisation Quality of Life (Brief version).

representation of all the strata and the results of one particular stratum can therefore be generalised to the students of that respective year.

Our study demonstrates higher level of stress in first year students, with a downward trend as the year progresses and then again greater stress levels in final year. This correlates with a study done in Saudi Arabia where the stressors were found to be problems in keeping up with the studies and home environmental factors.² In our study the first year students and fifth year students had the lowest scores in all domains, and third year students had the highest scores (Table). The trend observed for first and final (fifth) year correlated with the other studies done on medical students, which have demonstrated lower scores in all domains. Dahlin M et al. demonstrated higher levels of stress in first year students when compared with second year students and they attributed it to the higher pressure of studies taken by the former than the latter.¹⁶ Many other studies have highlighted poor coping strategies with the pressure of studies as the main underlying cause of stress in first year medical students with the greatest stressor being the 'exam' or 'test'.^{16,18} It has also been proposed that emotionally vulnerable students in year one find it more difficult to acclimatise themselves to the environmental and baseline changes, and thus find the first year at university particularly stressful, when compared with their peers in other years of medical education.¹⁷ It has been proposed that this can be solved by frequent feedbacks from students, provision of feedback by teachers about progress of students in their academics and help identifying weak areas as well as guidance of students regarding relevant study resources.¹⁹ Also it is suggested that teaching the students coping strategies for stress may also prove efficacious.¹⁹

This trend in third year of education is contradictory to that observed in earlier studies where the students of third year had low scores compared to other years and a V-shaped curve was observed.^{14,15} The reasons proposed for the lower score in 3rd year in these studies include the sudden exposure to patients, the transition from basic to clinical sciences, and the inability to manage balance between clerkships and studies.^{14,15} Hence, the interventions made in our set-up, like the introduction of clinical sciences in first two years and the devising of modules like Patient-Centred-learning and short (2-week) rotations in different clinical specialties in the second year, could have helped prepare the students to both patient-handling and to clinical sciences and therefore our students have a better quality of life compared to the other students of the same year in other studies.

Moreover, the students had the highest scores in Environmental domain than in any other domain, which further signifies the fact that a good learning environment can have a marked improvement in QOL of medical students and hence interventions must be made to make the environment as comfortable and student-friendly as possible.

The higher levels of stress in final year medical students can be attributed to a number of factors. The tremendous study load and requirements of clinical clerkships, such as attending clinics, duty-calls, and making study presentations, together increase the workload. There is added pressure of graduation and the need to pass all exams in the first attempt to be able to graduate on time.¹⁴ Being in the final year, there is a high level of responsibility upon the student as they feel that their teachers and consultants also have much greater expectations of them in the final year than in any other class. To top it all, there's the stress of acquiring a medical residency for which the students have to compete in an increasingly competitive environment amongst medical graduates.¹⁴ It has been found that the 'burnout' phenomenon is very high in final year medical students and in fact is as high as in practising physicians.²⁰

In our study, Environmental domain had the highest overall mean score of 70.43 ± 16.38 followed by Physical domain (69.39 ± 13.89), Social Relationship domain (68.68 ± 20.73) and Psychological Health domain (66.48 ± 15.64). The overall scores in all the domains were higher than in a study done in Brazil in which amongst individual domains the average QOL score was highest (68.9) for Social Relation, followed by Physical (66.0), and lower for Psychological (63.5) and for Environmental (58.0) domains.¹⁴ It can be hypothesized that the higher environmental scores can be due to our students having more family support.

Males were found to have a significantly higher score ($p < 0.05$) in Physical Health compared to female medical students. This finding correlates with many other studies.^{2,14,15,21-23} Dahlin M et al. have demonstrated greater prevalence of depressive symptoms among students than in the general population and amongst them higher in female than in male students.¹⁶ Some studies have deduced that this could be attributed to females being more emotional and sensitive to pressure.^{24,25} However, female students scored higher than males in our study in the Social Relations domain ($p < 0.05$). Researchers have attributed it to the better ability of women in dealing with different relationships when compared with men.^{16,26}

Medical education is highly demanding and irksome not only because it requires one to learn tremendous amount of new information, but also the constant need to interact with patients and apply the knowledge to clinical practice. Medical training involves the use of Power-point presentations and typed case reports and this intervention of electronic media was the highest ranked stressor among the medical students.¹⁷ Other factors include personal expectations and peer competition and the dissatisfaction with a system that assesses students and doctors as good or bad primarily by academic grades. Also, the clinical student sees tuitions with the consultants as more of public humiliation and discrimination, rather than a teaching session and this was an important Environmental stress factor.¹⁷ Chan GC and Koh D have put the challenges of medical life in a nutshell as the academic work requirements, maintaining a balance between work and other life activities and keeping a good psychosocial environment.²⁷

Many studies have been conducted to find the coping strategies for stress amongst medical students. An Arab study suggests targeting the possibly stressed and emotionally unstable students by the student support system which included counselling and mental health services, because stress not only affects their physical and psycho-social well-being, but also their academic performance.² This will also help them cope well with stress in later years.² This study suggested that preventive mental health services should be included as a part of routine clinical services for medical students and it would be more effective if incorporated in the early years.² Medical schools in the United States and Canada have initiated health-promotion programmes and have reported better outcomes in decreasing the negative effects of stress upon health and academic performance of medical students.^{2,28,29}

Another study proposes supporting students by increasing their competence in communication skills and professionalism and providing essential guidance on how to relieve stress during their medical training.^{15,28} This would improve both the physical and psychological health of students.¹⁵ It has also been found that physical exercise is beneficial in improving the QOL of students and hence increased exercise has been proposed by studies.^{15,29,30}

A very effective programme introduced into the curriculum by the Case Western Reserve University was a 'wellness elective', the aim of which was to reduce the stress amongst students and improve overall health.²⁸ It was found that talking to peers was a useful coping

mechanism.²⁸ Other studies have demonstrated the following programmes with good outcome: teaching learning skills, organising support groups, time management approaches, aerobics, intramural sports, and financial planning.²⁹

Conclusion

Medical education affects students' health, and thus their QOL varies. Identification of this is very important, since long-term stress can induce some permanent personality changes in individuals, and, resultantly, these students would grow up to be physicians with undesirable personality traits affecting communication with patients and consequently affecting the quality of care provided to the patients. This study may thus serve as a milestone upon which further studies can be built.

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