



“A CROSS-SECTIONAL STUDY TO ASSESS THE HEALTH RELATED QUALITY OF LIFE OF MEDICAL STUDENTS AND ITS ASSOCIATED FACTORS”

Community Medicine

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ABSTRACT

BACKGROUND: Depression, anxiety, and stress are commonly seen among medical students, which in turn lead to the impairment of their quality of life.

OBJECTIVES: Ascertain level of depression and health related quality of life of students and its related factors.

METHODOLOGY: Medical students of all years were given Short Form-36 and Beck Depression Inventory self-administered questionnaire for assessing health related Quality of Life and level of depression.

RESULT: Students were found to have lower quality of life scores with major impairment among year 2 students, students with depressive symptoms and women.

CONCLUSION: These issues have to be addressed at many levels: starting at medical school selection and training through to developing a culture of support in the work place.

KEYWORDS

Medical students, Health related Quality of life, Impaired

INTRODUCTION

According to WHO Quality of life is “the condition of life resulting from the combination of factors such as those determining health, happiness (including comfort in the physical environment and a satisfying occupation), education, social and intellectual attainments, freedom of justice and freedom of expression.¹

With the advent of globalization and economic boom, there has been a shift from the infectious diseases to life style diseases or chronic diseases. More and more competition in every field has threatened the economic stability of an individual and a family, thus leading to stress, psychological morbidity and impaired quality of life. This competition is on continuous rise in medical field as well and has led to stress which is impairing the quality of life in medical students.

There may be several determinants of this situation, such as academic overload/demands² contact with diseases and death³ medical curriculum/exams⁴ inability to cope, helplessness, increased psychological pressure, mental tension and too much work load.

The transition from preclinical to clinical training has also been identified as a crucial stage of medical school regarding student stress⁵⁻⁷. Lack of social support, depression, disempowerment and sleep deprivation are some other factors that may lead to a lowered quality of life in medical students⁸.

All this can result in decreased life satisfaction among students. Although a moderate degree of stress can promote student creativity and achievement; the intense pressures and relentless demands of medical education may impair student's behavior, diminish learning, destroy personal relationships and can lead to problems later in professional life compromising patient care.

Little effort has been made to promote prevention, wellbeing and appropriate self-care, particularly in the early stages of the profession such as during medical school. Current undergraduate medical curricula focus almost exclusively on the acquisition of clinical knowledge, with a clear deficit in the development of self-care skills and an understanding of the personal challenges of the profession⁹.

Hence, it becomes important to know the factors that influence students' quality of life during medical training to facilitate healthcare promotion.

MATERIAL AND METHODS

The present study was a descriptive cross-sectional study, conducted on the medical students of Dr. S. N. Medical College, Jodhpur. The

objective of the study was to assess the quality of life of the medical students.

The study tool was a self-administered questionnaire to collect the demographic data of the students along with factors which may affect their quality of life such as socio-economic status, year of study, alcohol use, smoking etc. Beck Depression Inventory¹⁰ was used for assessing the level of depression.

SF-36 questionnaire was made use of for assessing the health related Quality of Life (HRQoL).¹¹ It is a well-documented scoring system that has been widely used and validated as a HRQoL assessment tool for the general population as well as patient groups. It is a self-administered questionnaire of 36 items with closed-ended, structured questions and has 8 multi-item scales, which concentrate on the respondents' experiences, feelings, beliefs, perceptions and convictions concerning their health-related quality of life during the past four weeks.

The SF-36 is based on Likert scale method of summated ratings consisting of 8 scales: (i) Physical functioning (PF, a pure physical health), (ii) Physical role limitations (RP), (iii) Bodily pain (BP), (iv) Vitality/energy/fatigue (VT), (v) General health (GH), (vi) Mental health (MH), (vii) Social functioning (SF) and (viii) Emotional role limitations (RE). These 8 scales are then combined to form 2 dimensions: Physical Health Composite Score (PCS) (Scale 1 to 5) and Mental Health Composite Score (MCS) (Scale 4 to 8). Answers to each question are scored from 0-100.

These scores are then coded and summed to produce raw scale scores for each health concept which are then reweighted/transformed to a 0 (worst health) – 100 (best health) scale. Each scale score ranges from 0 to 100, with a higher score indicating a better level of QoL.

An informed verbal consent was obtained from the students with assurance of confidentiality of their identity; in order to obtain their full co-operation and appropriate result. Participation was voluntary and anonymity was maintained.

Inclusion Criteria: All the students who were present in their class on the day of data collection and gave their consent were included in the study. Classes were selected randomly and all the four professional year students were similarly approached, three times each over a period of six months.

For statistical analysis Statistical Package for Social Science (SPSS) version 16.0 was used and appropriate statistical methods such as Mean, Student t test and ANOVA tests were applied wherever required.

To see correlation between depression and quality of life Pearson correlation coefficient was used.

RESULTS

The total number of students who participated in the study was 513 of which 38.01% were first year students, 24.37% were from second year, 21.44% were from third year and 16.18% were in their fourth year of study. Mean age of students was 20.79 years and majority of the participants were males (62.6%), single (97.1%) and belonged to urban areas (53.61%).

Majority of the students belonged to Class I (51.1%) and II (27.1%) socio-economic class according to B.J. Prasad classification. When asked about what do they understand by health, barring a few all the students (96.56%) answered that health consists of physical, mental and social well-being. The prevalence of smoking (14%) and alcohol (20.1%) was although less; the proportion of students smoking and drinking alcohol increased significantly with the increasing year of study, maximum proportion being in the fourth year students (25.30% and 34.94% respectively) (p<0.0001). The frequency of depressive symptoms was found to be 49.12% ranging from mild to moderate and severe depression. Students had lower mean scores on mental health domains (RE: 53.15, SF: 62.23, MH: 66.56, GH: 63.93, VT: 64.92). In the physical health domains students had lower physical role limitation score (Mean RP: 65.50, PF: 71.45). Hence, students had lower Mean Mental composite score (62.16±16.74) than mean Physical composite score (68.02±14.59).

On comparing the year-wise data it was observed that the students of second MBBS had significantly lower scores in almost all the domains. (Table 1)

Students with presence of depression had significantly lower scores in all the health related quality of life domains (Table 2). Female students

Table 2: Determinants of SF-36 scores of Medical Students

| SF-36 Domains* | BDI | | | Gender | | | Smoking | | | Alcoholism | | |
|----------------|-------|-------|---------|--------|--------|---------|---------|-------|---------|------------|-------|----------|
| | ≤10 | >10 | P Value | Male | Female | P Value | Yes | No | P Value | Yes | No | P# Value |
| PF | 76.32 | 66.40 | 0.0001 | 72.99 | 70.53 | 0.156 | 69.03 | 71.85 | 0.244 | 70.44 | 71.71 | 0.545 |
| RP | 75.57 | 55.06 | 0.0001 | 71.48 | 61.92 | 0.002 | 60.07 | 66.38 | 0.141 | 64.08 | 65.85 | 0.633 |
| BP | 82.51 | 68.09 | 0.0001 | 75.22 | 75.55 | 0.852 | 66.15 | 76.74 | 0.0001 | 69.88 | 76.82 | 0.001 |
| GH | 71.23 | 56.37 | 0.0001 | 65.81 | 62.80 | 0.036 | 58.33 | 64.84 | 0.001 | 59.76 | 64.98 | 0.003 |
| VT | 73.18 | 56.37 | 0.0001 | 64.92 | 64.92 | 1.00 | 59.44 | 65.81 | 0.001 | 61.80 | 65.71 | 0.019 |
| MH | 76.27 | 56.52 | 0.0001 | 67.08 | 66.26 | 0.559 | 61.00 | 67.47 | 0.001 | 62.21 | 67.66 | 0.001 |
| RE | 69.86 | 35.85 | 0.0001 | 55.38 | 51.82 | 0.290 | 54.63 | 52.91 | 0.714 | 53.72 | 53.01 | 0.861 |
| SF | 73.08 | 50.99 | 0.0001 | 64.26 | 61.02 | 0.095 | 57.12 | 63.07 | 0.028 | 57.16 | 63.51 | 0.007 |
| PCS | 75.76 | 59.99 | 0.0001 | 69.68 | 67.02 | 0.046 | 62.39 | 68.94 | 0.0001 | 64.88 | 68.81 | 0.014 |
| MCS | 74.67 | 57.66 | 0.0001 | 63.49 | 61.36 | 0.164 | 58.11 | 62.82 | 0.027 | 58.93 | 62.97 | 0.028 |

* Mean Values # Student't' Test

Students who were partaking alcohol also had limited social functioning. Both the groups had lower Physical and Mental composites scores too.

A highly significant negative correlation was seen between the BDI score and all SF-36 domains i.e. presence of anxiety or depression led to a lower quality of life. (Table 3)

Table 3: Co-relation between BDI Score and SF-36 domains:-

| SF-36 Domains | r* | P Value |
|---------------|-------|---------|
| PF | -.261 | 0.0001 |
| RP | -.304 | 0.0001 |
| BP | -.380 | 0.0001 |
| GH | -.467 | 0.0001 |
| VT | -.555 | 0.0001 |
| MH | -.638 | 0.0001 |
| RE | -.461 | 0.0001 |
| SF | -.520 | 0.0001 |
| PCS | -.541 | 0.0001 |
| MCS | -.643 | 0.0001 |

* Pearson Correlation Coefficient

Age, area of residence and socio-economic status did not contribute to the health related quality of life of medical students.

DISCUSSION

The present study was conducted to get an insight into the health

were found to have lower scores in comparison to their male counterparts. This observation was although found to be significant, for physical role limitation only and slightly significant for general health. Students who were consuming alcohol and those with smoking habit were found to have significantly lower scores in Body pain, General Health, Vitality and Mental Health domains.

TABLE 1: Year-wise Mean SF-36 Scores of Medical Students:

| SF-36 Doma-ins* | Year I (n=195) | Year II (n=125) | Year III (n=110) | Year IV (n=83) | p# value |
|-----------------|----------------|-----------------|------------------|----------------|----------|
| PF | 72.44 (16.58) | 65.6 (22.46) | 70.36 (19.17) | 79.40 (15.59) | 0.000 |
| RP | 66.79 (31.24) | 63 (34.72) | 60.23 (36.52) | 73.19 (33.08) | 0.046 |
| BP | 76.91 (17.28) | 71.6 (20.86) | 80.18 (18.04) | 71.39 (19.49) | 0.001 |
| GH | 66.38 (14.17) | 61.64 (16.88) | 62.23 (15.67) | 63.86 (17.99) | 0.037 |
| VT | 66.41 (13.79) | 61.72 (16.08) | 66.91 (14.43) | 63.61 (17.02) | 0.01 |
| MH | 68.13 (14.18) | 63.63 (16.99) | 67.96 (14.69) | 65.44 (16.67) | 0.05 |
| RE | 49.23 (36.81) | 55.20 (35.19) | 50.61 (40.06) | 62.65 (33.90) | 0.03 |
| SF | 61.22 (24.38) | 59.80 (18.69) | 66.59 (19.09) | 62.50 (19.13) | 0.08 |
| PCS | 69.79 (14.11) | 64.59 (14.77) | 67.59 (14.23) | 69.59 (15.19) | 0.01 |
| MCS | 62.28 (17.84) | 60.40 (15.96) | 62.86 (15.43) | 63.61 (16.94) | 0.53 |

* Figures in parenthesis show standard deviation # One way ANOVA Test

related quality of life of medical

students because they are going to be the future physicians and also interventions during this phase may help them to deal with the work pressures of the present as well as of the future in a more effective manner.

In the present study, students of the second MBBS had the lowest scores in all the domains, though this difference was not significant in the case of mental health (MH) and social functioning (SF). One possible explanation of this may be that clinical years give a better perception of health compared to pre-clinical years leading to better perception of health in the later years. Similarly, Naseem K. et al. (2010)¹² in their study also found 2nd year MBBS students to have lower scores as compared to other year students. Study conducted by Paro HMB et al (2010)¹³ found the 3rd year medical students to have lower scores; this too reflects results mirroring the present study as in their curriculum 3rd year represented the transition to the clinical years.

Females were found to have significant lower scores on physical role limitation and general health, which may be connected to physical characteristics inherent to the female gender, associated with a burden due to an overload of traditionally female activities and greater emotional sensitivity. Similarly, in the study by Paro HMB et al (2010)¹³, female students had lower scores on six domains of the SF-36 and on the mental component summary compared with males.

Students who were smoking and consuming alcohol were found to

have lower quality of life. This could be because of a vicious cycle between stress, taking up of substance abuse and lowered quality of life. Study carried out by Pekmezovic T. et al (2011)¹⁴, similar to our study found smokers to have lower total SF-36 scores but they did not report any variation between the total scores of the two alcohol consuming groups.

In congruence to our study, Paro HMB et al (2010)¹³ too did not find any relation between students' quality of life and their family income. In our study, presence of depressive symptoms affected all the domains of the students' HRQL, leading to the conclusion that stress and anxiety negatively affects the quality of life of an individual. This finding can be corroborated by many previous studies^{13, 14} which too conclude negative effect of stress on the quality of life.

CONCLUSION

Medical students' quality of life was seen to be influenced by their year of study, presence of depressive symptoms and substance abuse habit. Additional research needs to be done to improve our understanding of the causes and consequences of medical student distress and quality of life. Potential solutions should also be investigated, which will benefit not only the affected individuals, but also the patients for whom they provide care.

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