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ORIGINAL ARTICLE

Assessment of Physical and Emotional Wellbeing of Medical Students using SF-36 Questionnaire

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ABSTRACT

Background: The pressures of medical school can be extremely difficult for personal wellness and contribute to anxiety, burnout and depression. High demands for academic performance and restraints of extracurricular activities all add to distress of a medical student.
Methodology: A cross sectional study using convenient sampling was carried out in medical students of CPMC, Lahore. A sample size of 208 was taken. The data was collected using the SF-36 questionnaire. Data was presented as percentages, frequencies, mean and standard deviation.
Results: The mean score of physical activity was 61.35+27.02 SD. The average score of restraints due to physical health and hindrance due to emotional health was 38.58+37.49 SD and 34.26+15.37 SD. The mean score of discomfort was 59.57+27.70 SD. The Mean+SD of the score for vitality or tiredness was 46.47+16.69 SD. The average score of emotional health, social relationships and general fitness was 51.10+16.64 SD, 52.82+21.57 SD and 54.04+18.76 SD.
Practical implication of the study is to observe the physical and emotional health of students enrolled in MBBS program.
Conclusion: The questionnaire SF-36 has been used in the past literature for the assessment of physical and emotional well-being of patients suffering from any particular disease. We observed that the female participants had poor physical and emotional health compared to male participants.
Keywords: Mental, physical, medical students, assessment.

INTRODUCTION

The five-year tenure of medical school followed by a period of residency can be hectic and draining for medical students and residents. This is due to the high expectations for quality performance within a limited period of time. This can cause burnout, anxiety, personal discomfort and even depression in most of the students[1]. This can challenge a doctor's own health and limit one's ability to perform as a compassionate, humanistic doctor[2]. According to research, increased personal well-being has been linked to greater empathy in both medical students and residents[3].

The term 'Wellness 'is comprehensive and includes both physical and mental health'. It includes all activities which lead to a state of holistic healthand include environmental, social, spiritual, vocational and financial dimensions all working together in unity as defined by the Global Wellness Institute. Medical education and wellness go hand in hand, the aim of medical education being production of well-rounded and qualified doctors[4].

Similarly, health as defined by The World Health Organization (WHO) is as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity". Both are equally important for a stable psychological health and a good standard of living[5].

The two major factor's which affect a pupil's well-being are a non-productive academic atmosphere and an inability to manage time. These have a deleterious effect on a student's health and existence[6].A high demand of educational obligations, a heavy workload, absence of recreation time, limited interaction with acquaintances and lack of quality time with family constitutes a myriad of possibilities affecting one's quality of life[7].

Findings from studies regarding mental health of students especially from the medical field reveal alarming results. Depression, eating disorders and constant worrying were predominant among 33% of university students of Australia[8]. Another survey of several studies showed increased levels of psychological stress in medical students of Spain[9], Norway[10], Sweden[11], Canada and USA[12].

A 17% prevalence of mental health disorders were discovered in a longitudinal investigation. The top predictors were found to be stress of medical school and earlier mental health problems[13]. Research shows a higher incidence of mental health issues among doctors compared to the general population, the manifestations being depression and drug abuse[14].Paradoxically, doctor's do not seek medical advice when such conditions arise[13,15]. The most serious and devastating consequence of unmet mental health requirements is that doctors commit suicide at a greater rate than the overall population[14].

While there is an increased recognition that interventions like psycho-social aids included in the medical college curriculum are essential, further research built on a more complete model of emotionally triggering and aggravating variables is required. Such a study would offer the ability to pinpoint more precisely where intervention should be directed. For this reason, we planned on conducting research to assess the physical and emotional well-being of medical students using the SF-36 questionnaire. It will be based on the hope that early diagnosis, medical training and awareness of general well-being might give a significant chance to eliminate challenges to young doctors' mental and emotional health inspiring them to give adequate attention to health care requirements.

METHODOLOGY

A descriptive cross-sectional, study was carried out among medical students of Central Park Medical College, Lahore. The data was collected from 208 medical students from first year to final year after approval from Ethical Committee. All medical students of Central Park Medical College were eligible to enter the study. Doctor of physiotherapy, nursing and other allied health students were excluded from in the study. Data was collected using convenient sampling.

After determining the sample size, a pre-validated SF 36 questionnaire was sent to all the students through google docx on WhatsApp. The questionnaire was in English language and included the participants consent to enter the study. Another section of participant's demographic characteristics was included in the questionnaire.

The 36-Item Short Form Survey (SF-36) is an outcome measure instrument that is often used, that is a well-researched and self-reported measure of health. It originates from a study called the Medical Outcomes Study to measure the objective aspect of quality of life. It comprises 36 questions that cover eight domains of health. The questionnaire SF-36 is used for assessing

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the participant's quality of life. The questionnaire has eight scales to measure physical and emotional health. They measure an individual's physical activity, hindrance ofrole due to physical health, role restraints due to emotional problems, vitality/tiredness levels, emotional health, social relationships, level of discomfort and general wellness. The score ranges from 0 to 100, 100 being the highest level of functioning possible.

The study was accepted by the Institutional Review Board (IRB) of Central Park Medical College (CPMC/IRB-No/1367). Mean and standard deviation of all numeric variables were calculated. Frequency and percentages were given for categorical variables. Mean and standard deviation of scores obtained in each subscale were computed. Normality of subscales were tested by using Kolmogrov Smirnov (KS) and Shapiro Wilk test of normality. Non-parametric test was applied to test the mean difference between average score of all dimensions across gender, socio-economic class and year of MBBS. Data was analyzed using SPSS version 26.

RESULTS

The data was collected from 208 medical students. The mean age of the students was 21.37+1.78 SD. About 87(41.8%) of the students were male and the remaining 121(58.2%) female. Nearly 92(44.2%) of the students were hostelites and the rest 116(55.8%) were day scholars. About 32(15.4%) of the students were from 1st year MBBS, 61(29.3%) from 2nd year MBBS, 31(14.9%) from 3rd year MBBS, 53(25.5%) from 4th year MBBs and the remaining 31(14.9%) from final year MBBS. About 77(37%) of the students belonged to the low-middle socio-economic class, 118(56.7%) were from middle class and the remaining 13(6.3%) were from middle-upper socio-economic class.

The fathers of 23(11.15%) students were non-working and the rest 185(88.9%) of the fathers were working. The mothers of all the students were non-working. About 5(2.4%) of the fathers were illiterate, 20(9.6%) were matric or less, 29(13.9%) were intermediate, 71(34.1%) were graduates and 83(39.9%) were post graduates. About 16(7.7%) of the mothers of the participants were illiterate, 33(15.9%) were matric or less, 27(13%) were intermediate, 71(34.1%) were graduates and 61(29.3%) were post graduates.

The birth order of about 77(37%) of the students was first, 53(25.5%) were second in birth order, 36(17.350 were third and the remaining 42(20.2%) were fourth or above in birth order. The average number of family members was 6.28+3.71 SD. The mean number of siblings was 3.44±1.69 SD.

The mean score of physical functioning was 61.35+27.02 SD. The average score of limitations due to physical health was 38.58+37.49 SD. The Mean+SD of the scores of limitations due to emotional health was 34.26+15.37 SD. The mean score of pain was 59.57+27.70 SD. The Mean+SD of the score of energy or fatigue was 46.47+16.69 SD. The average score of emotional wellbeing was 51.10+16.64 SD. Approximately 52.82+21.57 SD was the average score of social functioning. The Mean+SD of the general health was 54.04+ 8.76 SD.

Comparatively the average score of emotional health was lowest which shows that most of the student's role is limited due to their emotional problems. The highest mean score was found in physical functioning followed by pain.

Normality of subscales was tested by using Kolmogrov Smirnov (KS) and Shapiro Wilk test of normality. Physical functioning, physical health, emotional health, pain, energy/ fatigue, emotional wellbeing, social functioning and general health do not follow normal distribution (Table 1). Therefore, we applied non-parametric test for statistically significant difference between social and demographic characteristics

Mann Whitney U test was used for gender and Kruskal Wallis test was used for socio-economic class and year of MBBS. The mean score for role limitation due to emotional health and energy or fatigue were statistically significantly different between male and female students. The average score of role limitation due to emotional health and emotional wellbeing of students were significantly different across students with various socio-economic class. There was statistically insignificant difference of mean score of role limitation due to physical health among students in different years in MBBS (Table 2).

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Table 1: Normality test on physical and emotional wellbeing

Subscales	KS test	p-value	Shapiro Wilk test	p-value
Physical Functioning	0.09	0.00	0.95	0.00
limitations of role due to Physical Health	0.23	0.00	0.83	0.00
limitations of role due to Emotional Health	0.48	0.00	0.28	0.00
Pain	0.11	0.00	0.95	0.00
Energy/ Fatigue	0.18	0.00	0.95	0.00
Emotional Wellbeing	0.14	0.00	0.97	0.00
Social Functioning	0.16	0.00	0.96	0.00
General Health	0.09	0.00	0.98	0.01

Table 2: Difference between mean scores of physical and emotional health across socio-economic and demographic characteristics

Subscales	Gender		Socio-economic class		MBBS year	
	Test-statistics	p-value	Test-statistics	p-value	Test-statistics	p-value
Physical Functioning	4966.00	0.49	2.14	0.34	3.43	0.49
limitations of role due to Physical Health	4798.00	0.26	2.32	0.31	8.99	0.06
limitations of role due to Emotional Health	4314.00	0.02*	9.18	0.01*	6.43	0.17
Pain	4657.00	0.16	0.79	0.68	1.51	0.82
Energy/ Fatigue	4247.50	0.02*	1.57	0.46	3.75	0.44
Emotional Wellbeing	4971.500	0.49	6.57	0.04*	3.09	0.54
Social Functioning	5230.50	0.94	0.70	0.70	4.15	0.39
General Health	4825.50	0.30	1.37	0.50	7.79	0.10

**p-value<=0.05 statistically significant*

DISCUSSION

Literature is available now to describe the physical and emotional health of medical students and impact of these problems. The current study builds on existing knowledge of physical and mental health of medical students along with their demographic profiles and whether it is the same across all socio-economic class and both genders. The questionnaire SF-36 has been used in many studies in Pakistan to assess the quality of life of patients suffering from any disease[16,17]. However this study was an attempt to evaluate the physical and emotional health of medical students which was scarce in the literature.

The overall average scores of all the domains of scale was less than the scores obtained in other Asian studies[18, 19]. In the current study we observed that the mean score of role limitation due to emotional health was lowest followed by role limitation due

to physical health. A related study conducted among adult population of Peshawar, Pakistan using SF-36 questionnaire reported that the role limitation due to emotional health has average score minimum among all subscales followed by the average score of role limitation due to physical health[18].

In the current study, we observed statistically significant difference between average scores of role limitation due to emotional health and energy level of male and female students. Various studies have shown that average scores of male participants were better than female participants among all subscales[18-20].Literature also support that female participants had poor physical functioning scores[21,22].

Quite similar to our study, role limitation due to physical health, emotional wellbeing, social functioning and general health were statistically insignificant across male and female participants[22].

The SF-36 has been used to assess the physical and emotional health, given the small sample size of the study, there is a need of more research on the issue. More studies are required to explore the physical and emotional well-being of medical students in Pakistan.

CONCLUSION

The questionnaire SF-36 has been used in the past literature for the assessment of physical and emotional well-being of patients suffering from any particular disease. The SF-36 questionnaire has adequate validity and reliability to use for assessment of physical and mental wellbeing. We observed that female participants have poor physical and emotional wellbeing compared to male participants. However, a significant difference exists only in role limitation due to emotional health across gender and socio-economic class.

Conflict of interest: Nil

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