

Quality of General Life in the Medicine Course Students

ORIGINAL

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Abstract

Objective: To evaluate the general quality of life in medical students.

Method: This is a cross-sectional observational study of 320 students from the Federal University of Mato Grosso do Sul, located in Campo Grande, Brazil, who answered the WHOQOL-BREF quality of life assessment instrument.

Results: The medical students evaluated having a good general quality of life and good satisfaction with their health. According to the domains, the psychological domain was smaller than the social relationships and environment domains. The students had a difference in the values of the WHOQOL-BREF scores only between the psychological and the environment domains and lower values in the men, in the physical and psychological domains. During the years of the course, there was a difference between the domains only for the 3rd grade of the course, with lower scores for the psychological domain. In each domain, the values of the WHOQOL-BREF scores were higher in the second grade compared to the 5th grade in the social relationships domain, and in the environmental domain. The 1st grade had lower values than the 6th grade.

Conclusion: Medical students have a positive characterization of the quality of life, although it is less in the psychological domain, by the frequency of negative feelings not enjoying life or concentrating in a satisfactory way. Female students are more fragile in the psychological and physical domain than male students.

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Keywords

Quality of Life; Medical Students; Medical Education.

Introduction

The interference in the quality of life of medical students, with unpleasant situations influences on well-being, happiness, love, pleasure and personal achievements [1]. Thus, the human being lives in a daily context involving health, work, and quality of life, and when interconnected, they play an important role in health and quality of life [2].

In many studies evaluating the quality of life in the population, there was still no evaluation that covered this issue in a cross-cultural way. Thus, there was the intention to develop a quality of life instrument that evaluated in a psychometric way and the absence of having an instrument of that level in the country, since most of these instruments were developed in the United States and Europe, aimed at translating them for other cultures. This led the WHO to establish a Quality of Life group, the WHOQOL Group, developing an instrument with a cross-cultural perspective [3].

Throughout the academic trajectory, the medical student needs to go through stages assisting him in the chosen profession. In the stages and obligations of the course, from the fourth semester they come in contact with severely ill patients, and begin the clinical training, considered a stressful moment, by the increase in the number of depressive pictures in these students, and because they have decision-making in the boarding school in the fourth grade, the environment is more competitive, with the greater number of extracurricular activities they have not been able to obtain in the last three years because they have less time available [4].

In this study, the WHOQOL-Bref quality of life instrument was used to evaluate the general quality of life of students of the medical course of the Federal University of Medicine of Mato Grosso do Sul, in Campo Grande/MS, in the Center-west region.

Method

This is a cross-sectional observational study, carried out with the first to sixth-grade students of the Medical School (FAMED) of the Federal University of Mato Grosso do Sul (UFMS), regularly enrolled in the school year and over 18 years old. Students under 18 and/or members of vulnerable populations (such as indigenous and African people living in *Quilombos*) were not included in the research.

One of the teaching methods adopted during the academic year of 2015 was Team Based Learn (TBL), practiced by some professors in the courses offered at FAMED/UFMS and considered as the pioneering active methodology of the course.

Although most of the students had carried out their studies by traditional methods before joining the UFMS, TBL became common use. It is a method based on constructivism: the teacher assumes the role of a facilitator in an environment without authoritarianism, privileging equality and aiming meaningful learning. It also seeks to solve problems through the experience of learning through dialogue and interaction among students, working with communication skills and collaboration in teams, essential in the area of future professional work [5].

Self-applicative and anonymous instruments were used in previously scheduled meetings with the professors of the classes to perform the data collection, according to information obtained at the Academic Secretariat of FAMED/UFMS, so there was no harm to the academic in their performance.

The participation in the research was offered and carried out voluntarily. After explaining the achievement, interests, and direction of the research, if the students were interested, they were instructed to sign the Informed Consent Term (TCLE), under protocol #44295715.5.0000.0021 on April 30, 2015.

Three questionnaires were used to obtain socio-demographic data, quality of life and level of anxiety of the students. To characterize the sample, a questionnaire was used to obtain socio-demogra-

phic data such as age, gender, color, marital status, origin, household, children (having, not having and quantity), religion, use and consumption of alcoholic beverages/tobacco/*Narguilé*, sports practice, reason to choose the Medicine course, professional expectations, pretension places of action, pretension of postgraduate and civil public examinations, evaluation of the expectation of the medical career and the working conditions of the doctor in the public health sector.

The population characterization questionnaire was previously applied in a group of 12 medical students' volunteers to estimate the time needed for the answer, assessment of the understanding of the questions and identification/correction of possible failures in the instrument [6].

As there was no change after the application of the pilot test, the volunteer participants were reinserted in the study with the general and final population considered. The following structured and validated instruments were used to evaluate the general quality of life and anxiety level:

The World Health Organization Quality of Life-Bref (WHOQOL) was developed to use it in a cross-cultural and original way. Because it is a single instrument for several centers, its implementation has been guaranteed through genuinely international collaboration. The centers were selected to include countries with differences in levels of industrialization, availability of health services, the importance of the family and dominant religion - among others. The need for a shorter instrument requiring very little time for filling in and preserved satisfactory psychometric characteristics led to the development of a shortened version of the WHOQOL-100 called the WHOQOL-BREF [7].

The WHOQOL - Bref questionnaire has 26 (twenty-six) questions, according to (Annex 1), two general quality of life questions and the other 24 (twenty-four) are representative of the facets forming the original instrument. There are four domains: physical (seven questions), psychological (six

questions), social relationships (three questions) and environment (eight questions) [7, 8].

The Portuguese language version of the WHO-QOL-100 was developed at the Department of Psychiatry, and Legal Medicine of the Federal University of Rio Grande do Sul (UFRG), coordinated by Professor Marcelo Pio de Almeida Fleck. The WHOQOL questions were formulated for a scale of Likert-type responses involving a scale of *intensity* (nothing - extremely), *ability* (nothing - completely), *frequency* (never - always), and *evaluation* (very unsatisfied - very satisfied; - very bad - very good) [6].

From the values found for each of the 24 (twenty-four) facets composing the domains, the medians of the answers were obtained, that is, the value separating 50% of the answers when they are ordered. The values indicate 1 as the worst answer and 5 as the best answer, enabling to verify which facets received a positive or negative evaluation. For standardization and comparability, the medians presented in the facets related to pain, discomfort, dependence on treatments or medications and negative feelings were analyzed in an inverted way, according to WHO guidelines [9].

The scores calculation of quality of life was performed separately in each of the four domains [9]. The raw score was transformed to a scale from 0 to 100 (score transformed ET 0-100) according to syntax for SPSS 10.0, proposed by WHO (Annex 2). Thus, the minimum value of the scores of each domain is 0, and the maximum is 100, so the higher the score, the more positive the evaluation of the domain. The calculation of the total score was performed with 26 (twenty-six questions), also being transformed into a scale from 0 to 100 [9].

The result of the research was verified based on the participants' perception regarding life, the context of the culture and value system in which they live and to their goals, expectations, standards and concerns [6].

Results

There were 0.3% of the total number of students (n = 320) considering poor quality of life (self-evaluation), 7.2% considering it poor (score 2), 17.8% neither poor nor good (score 3), 55.0% as good (score 4) and 19.7% as very good (score 5). The median scores were 4.

Regarding their satisfaction (self-evaluation) with their health (n=320), the following results were obtained: 1.6% considered it very poor (score 1), 20.0% as poor (score 2), 23.1% nor bad nor good (score 3), 38.7% good (score 4) and 16.6% very good (score 5). The median scores were 4.

In 44% of the students (n=320), there was a positive correlation between values of quality of life and satisfaction with health (Spearman's Correlation Coefficient = 0.442). According to **Table 1**, there was no statistical difference between the median values of quality of life scores and satisfaction with health, in the gender and the grades studied by the students.

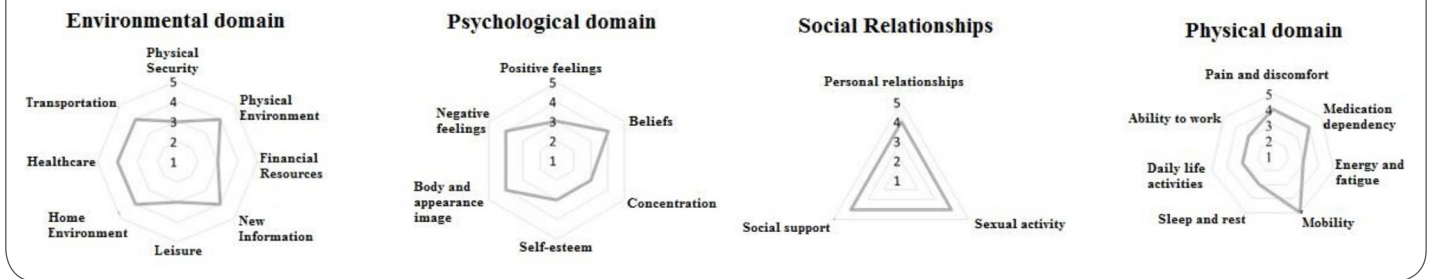
Regarding the answers in each of the facets of each domain, it was observed that in the physical domain (**Figure 1**), composed of seven facets and about how much the student felt or was able to do some things in the last 2 weeks before the data co-

Table 1. General quality of life of medical students according to gender and the grade they study, Campo Grande, 2015.

Variables	n	Very bad		Bad		Nor bad nor good		Good		Very good		Med	p
		1		2		3		4		5			
		n	%	n	%	n	%	n	%	n	%		
Quality of life (self-assessment)													
Gender													
Female	177	1	0.6	17	9.6	33	18.6	92	52.0	34	19.2	4	0.216 ¹
Male	143	-	-	6	4.2	24	16.8	84	58.7	29	20.3	4	
Grades													
1 st	69	-	-	3	4.4	16	23.2	37	53.6	13	18.8	4	0.395 ²
2 nd	40	1	2.5	1	2.5	5	12.5	22	55.0	11	27.5	4	
3 rd	54	-	-	5	9.3	9	16.7	24	44.4	16	29.6	4	
4 th	56	-	-	6	10.7	7	12.5	32	57.1	11	19.6	4	
5 th	51	-	-	5	9.8	10	19.6	29	56.9	7	13.7	4	
6 th	50	-	-	3	6.0	10	20.0	32	64.0	5	10.0	4	
Quality of life (self-assessment)													
Gender													
Female	177	5	2.8	36	20.3	43	24.3	61	34.5	32	18.1	4	0.527 ¹
Male	143	-	-	28	19.6	31	21.7	63	44.0	21	14.7	4	
Grades													
1 st	69	1	1.5	13	18.8	19	27.5	25	36.2	11	16.0	4	0.964 ²
2 nd	40	-	-	7	17.5	11	27.5	15	37.5	7	17.5	4	
3 rd	54	1	1.9	15	27.8	8	14.8	20	37.0	10	18.5	4	
4 th	56	2	3.6	9	16.1	13	23.2	22	39.3	10	17.8	4	
5 th	51	1	2.0	14	27.4	8	15.7	20	39.2	8	15.7	4	
6 th	50	-	-	6	12.0	15	30.0	22	44.0	7	14.0	4	

¹: Mann-Whitney Test. ²: Kruskal-Wallis Test.

Figure 1: Median of the academic evaluations in the facets of the WHOQOL-bref domains, Campo Grande, 2015 (n = 320).



lection, at least half of the students said that: physical pain made a lot of difficulties (median=4) the performance of daily activities and that there were dependence on treatments. They reported average level (median=3) of energy for day-to-day life. In the sleep satisfaction, the ability to perform activities and ability to work, they answered it was neither bad nor good (median=3). On the other hand, they consider the ability to walk around as very good (median=5).

In the psychological domain (**Figure 1**), composed of six facets about how much the student felt some things or was able to do in the last two weeks before the data collection, at least half of the students said that: enjoyed more or less (median=3) their life. They reported believing a lot of the meaning of life (median=4). They considered they could more or less concentrate (median=3). They had very often negative feelings such as moodiness, anxiety, despair and depression (median=4), they said they were not dissatisfied and not satisfied with themselves (median=3) and that they accepted their physical appearance a lot (median=4).

In the of social relationships domain (**Figure 1**), composed of three facets about how well or satisfied the student felt about various aspects of his life, in the last 2 weeks of the data collection, at least half of the students said they were with good (average=4) level of satisfaction regarding personal relationships (acquainted, colleagues, friends, relatives, etc.), the support they receive from friends and the sex life.

In the environmental domain (Figure 1), composed of eight facets about how the student felt and if he was satisfied or not about various aspects of his life, in the last 2 weeks of the data collection, at least half of the students said that they felt more or less safe (median=3), that their physical environment was very (median=4) healthy in noises, pollution, attractions, etc. They considered as average (median=3) the capacity of financial resources to satisfy their needs; very (median=4) available the information they need for the day-to-day; average level (median=3) of leisure opportunities. They also declared to be satisfied (median=4) with the conditions in which they live, access to health services and means of transportation.

Regarding the gender (**Table 2**), there was a difference in the values of the WHOQOL-bref scores only between the psychological and environmental domains (higher for the environment domain) in the female. In the male, there was no difference between the domains. In the comparison between female and male, the male showed values of the WHOQOL-bref scores higher than the female, in the physical and psychological domains. There was no difference in the domains of social relationships and environment.

There was a difference between the domains only for the 3rd grade; the psychological domain presented lower values of the WHOQOL-bref scores compared to the environmental domain. In the analysis of each domain separately among the grades, the values of the WHOQOL-bref scores were

Table 2. Average and standard deviation of the scores of quality of life domains (WHOQOL-bref) of medical students of the Federal University of Mato Grosso do Sul, Campo Grande, 2015.

Variables	n	WHOQOL-bref Domains								p
		Physical		Psychological		Social relationships		Environmental		
Gender										
Female	69	60.7	61.6±16.5	a 62.5	59.1±16.9	66.7	61.7±23.2	b 65.6	64.0±16.2	0.004 ¹
Male	40	67.9	65.4±14.8	66.7	63.7±15.8	66.7	65.6±19.6	65.6	65.1±15.2	0.221 ¹
P		0.02902		0.018 ²		0.244 ²		0.723 ²		
Grades										
1 st	69	57.1	59.6±14.9	62.5	60.6±17.1	58.3	60.6±21.8	* 59.4	59.8±15.4	0.755 ¹
2 nd	40	66.1	65.7±15.3	64.6	63.5±17.6	* 75.0	72.1±21.2	68.8	66.4±15.6	0.106 ¹
3 rd	54	64.3	61.7±20.5	a 62.5	58.9±18.6	66.7	63.7±20.0	b 68.8	65.9±17.9	0.012 ¹
4 th	56	64.3	63.5±15.2	58.3	58.9±15.5	58.3	56.7±25.5	65.6	66.2±14.5	0.078 ¹
5 th	51	64.3	64.4±13.9	62.5	61.1±15.2	¥ 66.7	61.9±18.7	62.5	62.1±15.9	0.377 ¹
6 th	50	67.9	66.7±14.0	66.7	65.0±14.8	75.00	69.3±19.2	¥ 68.8	68.3±13.6	0.147 ¹
P		0.0780 ³		0.396 ³		0.003 ³		0.023 ³		

Observation: In the lines, different letters indicate that there is a statistically significant difference ($p \leq 0.05$), in the columns, different symbols were used for the variable "grades."

¹: Friedman's test. ²: Mann-Whitney test. ³: Kruskal-Wallis Test.

higher in the 2nd grade compared to the 5th grade in the social relationships domain, and in the environmental domain, the 1st grade presented lower values than the 6th grade (Table 2).

Discussion

There was a small predominance of females (55.3%) of the n=320 students of the Medical School of the FAMED/UFMS (Campo Grande, MS), in 2015, similar to the same course offered by the State University of Rio de Janeiro (UERJ) [10]. According to Brazilian data, there is a prevalence of female upper-level students, 35.9% of which are medical students [11].

The quality of life is linked to personal and academic life events, such as family and health problems, financial issues, the presence of suffering, the achievement of independence and the choice of profession. This set of factors can interfere in the psychological, environmental, physical and social well-being and cause consequences in the educational development, as well as in the aspects of

motivation and interest of the professional studies [12].

The perception of FAMED/UFMS students about their general quality of life was considered good by most of them (55.0%) and good or very good satisfaction with their health (55.3%). A study conducted at the Federal University of Bahia with medical students showed that lack of leisure, physical activities, and family life are harmful to these students. Students with higher college time have a high level of sedentary lifestyle when compared to new students [13].

There was a positive correlation between the values of general quality of life and satisfaction with the health in the sample (44.0%). In a study carried out at the University of Brasilia (UnB) in students of the same course, they also obtained a positive correlation among those surveyed in the two general questions of the WHOQOL-BREF [14].

Regarding the general quality of life, the FAMED/UFMS students in the psychological domain demonstrated (median=62.5) with a lower score in comparison to social relationships (median=66.7)

and environment scores (median=65.5). This was a variable that obtained a regular claim of “negative feelings” and “dissatisfaction with enjoying life” [14].

The medical students with the best performance in the studies had a high risk of suicide. More demanding, they are also more subject to suffering by the error and guilt over inefficiency. As a result, they become vulnerable to the various negative effects caused by the fear of making mistakes, motivated by feelings of inadequacy and impotence and sufficient to lead to the abandonment of the course, depression, and suicide [15].

Students of Medicine deal consecutively with death, pain, and suffering. Their stressful life routines increase the risk of impairment of the physical and psychological quality levels of these individuals [16].

FAMED/UFMS students expressed mostly a scarce leisure time in the physical domain, with losses related to frequent significant physical pain: about 50% of the students said they made (and often inappropriate) use of medications to perform their daily activities with good yield. The practice of physical activity is important in reducing the risk of chronic non-communicable diseases, cardiovascular diseases, diabetes, dyslipidemias and increased body weight [17].

Even if they are in a health service, the lack of maturity about the diagnosis and/or the fear of punishment by the medical preceptors, medical assistants or tutors lead the students to self-medication [18].

Satisfaction with sleep and the ability to perform activities and work were evaluated by FAMED/UFMS students as indifferent. Through psychosocial needs, work helps man to have emotional stability. The lack of adequate sleep causes a reduction in productivity the next day: a satisfactory night's sleep is a psychophysiological need since the individual needs to restore physical and mental energy to have better conditions, including emotional and performance conditions [19].

As the academic career of Medicine is very demanding, the need for adaptation is growing. Students often sleep very late, which makes their homeostasis difficult. Unsatisfactory sleep increases the risk of learning impairments, reducing social interaction capacity and quality of life [20].

Most of the students said they were satisfied with their ability to walk around. Faced with this positive factor, physical activity strengthens as an important tool for health promotion and quality of life [21].

Most FAMED/UFMS medical academics said they were satisfied with their appearance. A study performed at a school hospital located in the southeastern region of Brazil revealed that its participants consider a good presentation is important for students and professionals in the medical area before and during contact with the patient. Equally desirable are behaviors and attitudes capable of contributing to a quality personal and professional image [22].

The first experiences of body image formation begin during childhood and continue in constant change. The development of this image is related to the identity of the body itself and is connected to physiological, affective and social aspects [23].

As for the social relationships domain, students reported being satisfied with their personal relationships, social support, and sexual life. For this, it is fundamental that work or study take place in harmonious and pleasant environments, as problems in this area can destabilize the group and have serious consequences for the assistance [24]. Therefore, people with good social contact live longer and have better health compared to individuals with restricted social contact [25].

Unexpected situations are very common in college life. According to the environmental domain in its eight facets, FAMED/UFMS medical students said they were dissatisfied with safety. However, they realize that the physical environment is quite healthy about noise, pollution, and attractions. Because of the time spent in academic space every day, safety is

considered significant for student performance and adaptation, since the sense of danger causes stress and often limits everyday activities [26].

The academic environment is considered a stressor when it does not have conditions and/or standards for the well-being of socialization, environmental relationships and the interaction of students with professors, colleagues and other actors in the university environment. With these demands, the medical students of FAMED/UFMS reported the provision of information as satisfactory and necessary to daily life in college. They claimed that their financial resources were not entirely enough to meet their needs and that they felt satisfied with the place of their house, as well as with the access to health services and means of transportation.

In females, a difference was identified in the psychological and environmental domains, with better conditions for the environmental domain. The occurrence of psychological demands among women is much more significant than men, as they are more susceptible to mood disorders and have a higher prevalence of depressive disorders, dysthymic disorders and bipolar disorder in the women [24].

Since stressful conditions are diverse and practically unavoidable, medical students only gain an improvement in their quality of life when they change their positions and work their personalities for adverse situations [28].

There was only difference for the 3rd grade in the psychological domain, with lower values of the WHOQOL-BREF scores compared to the environmental domain, since at this moment of the course the work with the patients begins and the students are more required due to their work in the Medical Clinic [29].

Physically, men are more active than women by frequent involvement in muscle strength/stretching activities and active transportation. In this study, the male gender expressed values higher than the female in the WHOQOL-BREF scores in the physical and psychological domains [30].

In the evaluation of the domains separately, according to the grades of the course, the WHOQOL-BREF scores were higher in the 2nd grade compared to the 5th grade in the social relationships domain. During the professional studies, there are situations of anguish, frustrations, insecurities, doubts and fears. It is important to pay attention to the academic experiences of medical students since positive reassessment of emotions and attitudes can improve academic achievement and motivation [31].

The first-grade students of FAMED/UFMS had lower values of environmental satisfaction compared to 6th grade students. The first year of admission to a university is accompanied by an intense search for knowledge and social interaction. Throughout the course, interest declines due to stress, competition, the quantity of materials and the search for perfectionism. In the 6th grade, the psychological pressure is intense due to the choice of specialty and the Medical Residency [32].

Conclusion

According to the medical students' self-assessment, they considered the quality of life as good, influencing these students the psychological situations they face throughout college, whether due to stressful situations or anxiety, requiring a lot of the academic interfering in their academic and family background.

Comparing the domains according to gender, the female presented better conditions for the environmental than the psychological domain. The condition can be attributed to the natural biological conditions of the woman, which can cause interference in their relationship and psychological homeostasis by factors such as frequent hormonal changes.

The male gender was better evaluated in the physical domain due to the consideration of virility in the professional practice of Medicine. During a period in history, only men exercised the medical profession and paradigms about physical strength, leadership and resistance emerged. Physical exer-

tion, in general, is also practiced more often by the male, influencing both physiological, psychological and social domains.

The first contacts of the students with the clinical care of patients occur during the third grade. The deal with the unknown, with death and suffering shares space with the routine of studies and its high demand. This division is a common factor of damage that affects areas of an adaptive nature. The period (3rd grade) was considered favorable in the sample for the presentation of insecurities and vulnerabilities that may reflect on the individual psychological aspect and the studies environment.

The social relationships of the academics obtained the best evaluations during the second grade, period in which the occupations are not as plural as in the last years. This claim was reinforced by the lower quality of social relationships among 6th grade students who, on the other hand, were more accustomed to the university environment.

Although the students presented healthy self-perception, the research emphasized the need for psychological support for them, due to the significant expressions of insufficiency, poor performance and limitations of social support. Psychological assistance in academic life leads to important improvements in performance, new ways of interpreting and responding to situations and gains in interpersonal relationships and self-confidence, which is one of the determining factors for a better quality of life.

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