



EVALUATION OF QUALITY OF LIFE OF NON-SURGICAL PHYSICIANS AND SURGEONS

Avaliação da qualidade de vida de médicos clínicos e cirurgiões

Evaluación de la calidad de vida de médicos clínicos y cirujanos

Hugo Machado Sanchez (OrcID)

University of Rio Verde (*Universidade de Rio Verde*) - UNIRV - Rio Verde (GO) - Brazil

Andre Luiz Sbroggio Junior (Lattes)

University of Rio Verde (*Universidade de Rio Verde*) - UNIRV - Rio Verde (GO) - Brazil

Eliane Gouveia de Morais (Lattes)

Federal University of Goiás (*Universidade Federal de Goiás*) - UFG - Jataí (GO) - Brazil

Patricia Leão da Silva Agostinho (Lattes)

Federal University of Goiás (*Universidade Federal de Goiás*) - UFG - Jataí (GO) - Brazil

Thays Barbieri Poloniato (Lattes)

University of Rio Verde (*Universidade de Rio Verde*) - UNIRV - Rio Verde (GO) - Brazil

Paulo Grossi Soares (Lattes)

University of Rio Verde (*Universidade de Rio Verde*) - UNIRV - Rio Verde (GO) - Brazil

ABSTRACT

Objective: To evaluate the quality of life (QOL) of medical practitioners according to the chosen specialty (non-surgical or surgery). **Methods:** Cross-sectional analytical study performed in 2016 with physicians working in clinics and hospitals of Rio Verde, Goiás, Brazil. Two questionnaires were used: one on sociodemographic aspects and the second one, for quality of life evaluation, the World Health Organization Quality of Life-BREF (WHOQOL-BREF). Out of 287 questionnaires that were delivered, 144 were answered. Comparative data regarding the domains received analysis with use of ANOVA, MANOVA, MANCOVA, Pearson's correlation and linear regression, considering $p < 0.05$. **Results:** The findings showed mean age of 37.7 ± 10.09 years and a majority of men (63.1%; $n=91$). The physical domain was significantly better evaluated in the mean values of QOL by men ($p=0.002$), as well as the environmental domain ($p=0.031$). When comparing the mean values of the QOL and their domains according to the clinical and/or surgical practice of the physicians, there was no significant difference. When comparing physicians that work alternative shifts to those working regular day shifts, it was found that the domains of social relationships ($p=0.049$) and environment ($p=0.001$), and the global QOL ($p=0.024$) as well, regardless of the workload, were worsened among the shift workers. The longer the length of time since graduating from college, the greater the perception of the environmental domain ($p=0.02$). There was no significant difference as for the salary range. **Conclusion:** There was no difference in the global quality of life between the evaluated non-surgical physicians and surgeons. However, when compared by sex, men achieved a more satisfactory performance in terms of the physical and environmental domains. It was evidenced that the salary range does not influence the quality of life of these professionals.

Descriptors: Quality of Life; Physicians; Work-Life Balance; Occupational Health.



RESUMO

Objetivo: Avaliar a qualidade de vida (QV) dos profissionais da área médica de acordo com a especialidade escolhida (clínica ou cirúrgica). **Métodos:** Estudo transversal analítico, realizado em 2016, com médicos de clínicas e hospitais de Rio Verde, Goiás, Brasil. Utilizaram-se dois questionários: um sobre aspectos sociodemográficos e outro para avaliação da QV, o World Health Organization Quality of Life-Bref (WHOQOL-abreviado). Entregaram-se 287 questionários, sendo 144 respondidos. Dados comparativos dos domínios receberam análise ANOVA, MANOVA, MANCOVA, correlação de Pearson e regressão linear, considerando-se $p < 0,05$. **Resultados:** Encontrou-se média de idade de $37,7 \pm 10,09$ anos e a maioria do sexo masculino (63,1%; $n=91$). O domínio físico foi, significativamente, melhor avaliado nos valores médios de QV pelo sexo masculino ($p=0,002$), assim como o domínio meio ambiente ($p=0,031$). Quando se comparou valores médios da QV e seus domínios de acordo com a atuação clínica e/ou cirúrgica dos médicos, não houve diferença significativa. Ao se comparar médicos plantonistas e não plantonistas, verificou-se que os domínios relação social ($p=0,049$), meio ambiente ($p=0,001$) e QV ($p=0,024$), independentes da carga horária, apresentaram piora no caso dos médicos plantonistas. Quanto maior o tempo de formado, maior a percepção do domínio meio ambiente ($p=0,02$). Sem diferença significativa quanto à faixa salarial. **Conclusão:** Não houve diferença na qualidade de vida global entre os médicos clínicos e cirurgiões avaliados, porém, quando comparado entre o sexo, o masculino obteve desempenho mais satisfatório nos domínios físico e meio ambiente. Evidenciou-se que a faixa salarial não influencia na qualidade de vida desses profissionais.

Descritores: Qualidade de vida; Médicos; Equilíbrio Trabalho-Vida; Saúde do Trabalhador.

RESUMEN

Objetivo: Evaluar la calidad de vida (CV) de los profesionales del área médico de acuerdo a la especialidad elegida (la clínica o quirúrgica). **Métodos:** Estudio transversal analítico realizado en 2016 con médicos de clínicas y hospitales de Rio Verde, Goiás, Brasil. Se utilizaron dos cuestionarios: uno sobre los aspectos sociodemográficos y otro para la evaluación de la CV, el World Health of Quality of Life-Bref (WHOQOL-abreviado). Se han distribuido 287 cuestionarios y 144 han sido contestados. Los datos comparativos de los dominios recibieron análisis ANOVA, MANOVA, MANCOVA, correlación de Pearson y regresión lineal, considerándose $p < 0,05$. **Resultados:** Se encontró una media de edad de $37,7 \pm 10,09$ años y la mayoría del sexo masculino (63,1%; $n=91$). El dominio físico ha sido, significativamente, mejor evaluado para los valores medios de la CV por el sexo masculino ($p=0,002$) así como el dominio medio ambiente ($p=0,031$). No hubo diferencia significativa al comparar los valores medios de la CV y sus dominios de acuerdo con la actuación clínica y/o quirúrgica de los médicos. Al comparar los médicos que están de guardia y los que no, se verificó que los dominios relación social ($p=0,049$) y medio ambiente ($p=0,001$) y CV ($p=0,024$), independientes de la carga horaria, se han presentado peor para los médicos de guardia. A más tiempo de la graduación mayor es la percepción del dominio medio ambiente ($p=0,02$) de parte de los profesionales. No hubo diferencia significativa respecto la franja salarial. **Conclusión:** No hubo diferencia para la calidad de vida global entre los médicos clínicos y cirujanos evaluados, sin embargo, al comparar entre el sexo, el masculino tuvo el desempeño más satisfactorio para los dominios físico y medio ambiente. Se ha evidenciado que la franja salarial no influye en la calidad de vida de esos profesionales.

Descriptor: Calidad de Vida; Médicos; Equilibrio entre Vida Personal y Laboral; Salud Laboral.

INTRODUCTION

In an effort to assess quality of life, the past two decades have seen a proliferation of instruments, most of them developed in the USA, with a growing interest in their translation for application in other cultures, since QOL involves objective and subjective aspects determinants of good quality of life⁽¹⁾.

From people's perception of their own environment, it is possible to establish elements to consider this notion as the result of objective and subjective indicators⁽²⁾. The World Health Organization (WHO) and the WHOQOL group define quality of life (QOL) as an "individual 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"⁽³⁾.

Because of such complexity, this proves to be as a difficult subject to understand, which needs certain delimitations to enable its operationalization in scientific analyses. Such conception is subject to change over time, whether globally or in some areas⁽⁴⁾.

As part of QOL-related health promotion, the Healthy Cities project was aimed at developing local action plans for health promotion based on WHO's "health for all" principles. Since then, it has been growing continuously, involving about 1,800 cities, in several networks developed on five continents⁽⁵⁾.

When it comes to professionals in the medical field, it is perceived a reduction in the quality of life threshold, since they start living on the edge of exhaustion, almost always in wakefulness and ready for some emergency call. In this way, there is loss of sleep, changes in the psychological structure, self-esteem and professional performance. They are often in conflict between the pleasure of exercising their profession and the banalization of their own health, making harmful uses of opioid analgesics and benzodiazepines⁽⁶⁾.

In Brazil, almost 50% of doctors do not have a specialist degree, being called general practitioners. Thus, these constitute a large majority of the shift workers, acting in the clinical practice⁽⁷⁾.

The career of a surgeon begins with access to a medical residency program, which was defined as a “graduate teaching modality intended for physicians in the form of a specialty degree program characterized by on-the-job training in health institutions, university or not, under the guidance of medical professionals of high ethical and professional qualification.” The program lasts for two years and enables the physician to diagnose and treat diseases that require surgical procedures, especially with regard to urgencies, and should prepare them for the execution of basic interventions in all specialties of life⁽⁸⁾.

A survey conducted with 309 medical practitioners reported that 73.5% would like to assess their patients' QOL and that 94.3% of them would be willing to prescribe expensive medications to increase their patients' QOL. However, they are faced with certain barriers, such as lack of financial resources and diminished time. Because of that, the number of medical practitioners who routinely assess QOL remains uncertain, and their recommendations come from professional experiences, demonstrating the greater sensitivity of non-surgeon physicians to their experiences⁽⁹⁾.

Medical surgeons and non-surgeon physicians often have opposite personalities. Surgeons are faster and more impulsive, more rational and more aggressive, interested in interpersonal contact, but to a lesser extent when compared to clinicians, being also more subject to extreme stress, which can lead them to exhaustion, and this, subsequently, contributes to impaired technical performance, medical errors, physical and mental health issues, and even an increased risk of suicide. Non-surgeon physicians are quieter, more thoughtful, imaginative, detail-oriented, and more antagonistic to the environment, but are more interested in interpersonal contact and less aggressive than surgeons⁽¹⁰⁾.

Thus, the physician who works in the clinical area is less attached to rules and routine, which creates more opportunities to perform activities that improve QOL. Moreover, personality traits and availability of time are the features that guides the choice of the medical area in which the practitioner is going to act and, in the course of the profession, they end up developing different methods of work and leisure⁽¹⁰⁾.

Separating clinical and surgical specialties, a German study on surgeons found that 39% of the non-surgeon physicians worked more than 60 hours a week, while 68% of surgeons worked that amount of hours on average. Restrictions on private and family life due to overwork were also reported by 74% of surgeons, 15% higher compared to non-surgeons (59%). In view of the results of the study, surgeons need to pay more attention to their own quality of life, for their own sake and also because this is a central issue when treating their patients⁽¹¹⁾.

Given the perspectives presented, this study aims to evaluate the QOL of medical practitioners according to the chosen specialty (non-surgical or surgery).

METHODS

This is a cross-sectional analytical study carried out between January and December 2016 in clinics and hospitals in Rio Verde, Goiás, Brazil.

The study included medical practitioners working in hospitals as well as those working in private clinics, who performed their activities regardless of the length of residency training, without discrimination of sex, ethnicity and age, provided that they were not providing care at the occasion.

Medical practitioners with physical disabilities were excluded, since these would represent a bias to the physical domain, rendering the self-assessment slanted. The study also excluded the medical practitioners who were on vacation for more than 15 days or had any other reason that prevented them from carrying out their activities; who were in any medical residency program; pregnant women who were still performing activities and, finally, practitioners with undergraduate degrees from foreign countries without recognition of any national higher education institution.

Data collection was conducted with use of two instruments, the first one a questionnaire on sociodemographic aspects, and the second is the generic instrument proposed by the WHO for QOL assessment, called World Health Organization Quality of Life-BREF^(3,4).

The first instrument corresponds to a questionnaire constructed by the authors of the present study for collection of sociodemographic data, composed of objective questions subdivided into personal data concerning the quality of life of medical practitioners in the clinical area and surgeons. This instrument, prior to being applied, was sent to three judges (experts) in the field for suggestions and adjustments and, right afterwards, submitted to a pretest, which also generated adjustments to it, prior to its application.

The second instrument, the WHOQOL-BREF, is a shorter version of the WHOQOL-100, created by the WHO Quality of Life Group, in 1998, revised and validated for the Portuguese language^(1,3,4). It presents good psychometric performance, practicality of use, satisfactory characteristics of internal consistency and reliability, with 26 items, four domains, one global index and four other for the domains by the average of the items, with results from zero to 100. Internal consistency $\alpha = 0.91$ and between 0.69 and 0.84 for the domains. In the present study, all questionnaires were self-administered. However, in case of doubt, the researchers were available to help the participants, thus making an assisted application of the questionnaire.

For statistical analysis, the software SPSS 22.0 (IBM, USA) was used. For comparison of the domains and QOL, one-way ANOVA was used. Student's t-test was used in the comparison of the domains and QOL between the sexes, and in the comparison between domains and QOL of the physicians that work alternative shifts to those who work regular day shifts. MANOVA was used in the multiple comparison of domains and QOL and the branch of medical practice, as well as in the comparison of QOL and domains between the salary range area. The quality of life and its domains were compared between the sexes and the branch of practice using the Multivariate Analysis of Covariance (MANCOVA), with Bonferroni adjustment for multiple comparisons associated. To verify the correlation of the domains and QOL with age and time since graduating, the Pearson's correlation coefficient was used. Simple linear regression was performed to evaluate the association between sex and QOL, while multiple linear regression was used to associate QOL with age and time since graduating. Finally, to analyze the association between QOL and number of shifts, simple linear regression was performed. In all tests, p values <0.05 were considered significant.

The present study was approved by the Research Ethics Committee (CEP) of UniRV, under Approval No. 042821/2014, in compliance with the ethical precepts of research involving human beings. All volunteers signed the Informed Consent Form (ICF).

RESULTS

In total, 287 questionnaires were delivered, and 144 were answered in full. The mean age of the participants was 37.7 ± 10.09 years, and the majority were male (63.1%; $n=91$).

When comparing the domains, it was verified that the physical one (71.03 ± 15.18) was higher than the environmental domain (65.34 ± 12.98), $p=0.010$. Table I presents data comparing the QOL and its domains between the sexes. According to the results presented, the physical domain was significantly better evaluated by the men ($p=0.002$), as well as the environmental domain ($p=0.031$) in the QOL mean values. When comparing the mean values of QOL and its domains according to the branch of practice (clinical area of medicine and/or surgery), there was no significant difference (Table II).

Table I - Quality of life (QOL) mean values and comparison, using Student's t test, between genders ($n=144$). Rio Verde, Goiás, Brazil, 2016.

	Male (n=91)	Women (n=53)	p-value
Physical domain	80.64 \pm 15.12	58.52 \pm 14.89	0.002*
Psychological domain	77.20 \pm 13.45	64.43 \pm 12.75	0.075
Social relations domain	74.11 \pm 15.82	69.74 \pm 14.54	0.539
Environmental domain	78.19 \pm 13.91	62.73 \pm 12.74	0.031*
QOL	77.40 \pm 15.65	64.08 \pm 15.78	0.065

*values of $p < 0.05$. QOL: quality of life; n: absolute number

Table II - Comparison between areas of medical practice and general perception of QOL and its respective domains, using the MANOVA method (n=144). Rio Verde, Goiás, Brazil, 2016.

Dependent variable	Area of practice	Mean±SD	Comparison	Variable compared	p-value
Physical domain	clinical	70,32±15,45	clinical	surgery	0.44
	surgery	74,05±14,22		clinical and surgery	0.47
	clinical and surgery	74,16±12,75	surgery	clinical	0.44
				clinical and surgery	0.99
			clinical and surgery	clinical	0.47
				surgery	0.99
Psychological domain	clinical	68,64±15,35	clinical	surgery	0.58
	surgery	71,69±12,53		clinical and surgery	0.99
	clinical and surgery	67,83±13,35	surgery	clinical	0.58
				clinical and surgery	0.82
			clinical and surgery	clinical	0.99
				surgery	0.82
Social relations domain	clinical	68,23±18,78	clinical	surgery	0.97
	surgery	69,00±17,40		clinical and surgery	0.99
	clinical and surgery	67,00±15,56	surgery	clinical	0.97
				clinical and surgery	0.96
			clinical and surgery	clinical	0.99
				surgery	0.96
Environmental domain	clinical	64,96±12,99	clinical	surgery	0.63
	surgery	67,37±14,54		clinical and surgery	0.81
	clinical and surgery	66,39±10,86	surgery	clinical	0.63
				clinical and surgery	0.99
			clinical and surgery	clinical	0.81
				surgery	0.99
QOL	clinical	68,04±13,54	clinical	surgery	0.61
	surgery	70,53±12,37		clinical and surgery	0.88
	clinical and surgery	68,84±10,31	surgery	clinical	0.61
				clinical and surgery	0.96
			clinical and surgery	clinical	0.88
				surgery	0.96

* values of $p < 0.05$. QOL: quality of life; n: absolute number

When comparing the physicians that work alternative shifts to those working regular day shifts, it is possible to observe a disparity in the domains of social relations ($p=0.049$) and environment ($p=0.001$), as well as in the QOL ($p=0.024$), evidencing that the shift workers, regardless of their hours of work, showed worsened results in these domains (Table III). When comparing the quality of life and its respective domains according to the salary ranges, no significant difference was observed (Table IV).

Table V presents the correlation of QOL and its domains with age and the time since graduating, where there is a correlation between the environmental domain and the time since graduating, that is, the longer the time, the better the perception of the environmental domain ($p=0.02$).

Table III - Comparison of the domains and the QOL between those who work alternative shifts or not, using the Student's t test (n=144). Rio Verde, Goiás, Brazil, 2016.

	Yes (n=89)	No (n=55)	p-value
Physical domain	69.22±15	73.96±15.14	0.173
Psychological domain	67.04±14.76	71.97±14.7	0.14
Social relations domain	65.63±18.58	72.42±17.18	0.049*
Environmental domain	62.6±12.18	69.77±13.12	0.001*
QOL	66.12±12.94	72.03±12.79	0.024*

* values of $p < 0.05$. QOL: quality of life; n: number of individuals

Table IV - Comparison of QOL and its domains between areas and salary ranges, by MANOVA (n=144). Rio Verde, Goiás, Brazil, 2016.

	10-19 minimum wages (n=55)	20-29 minimum wages (n=69)	30-39 minimum wages (n=14)	> 40 minimum wages (n=6)
Physical domain	68.96±13.69	71.27±15.42	75.51±21.14	76.78±3.71
Psychological domain	68.56±14.2	67.99±15.01	72.02±18.08	75.92±11.06
Social relations domain	67.72±18.08	67.51±18.08	71.42±20.07	73.61±10.70
Environmental domain	64.94±13.00	65.08±12.72	65.85±16.09	72.91±6.22
QOL	67.54±13.01	67.96±12.68	71.2±17.35	74.81±5.38

* values of p < 0.05. QOL: quality of life; n: number of individuals

Table V - Correlation of domains and quality of life (QOL) with age and time since graduating, using Pearson's correlation coefficient (n=144). Rio Verde, Goiás, Brazil, 2016.

	Age		Time since graduating	
	r	p	r	p
Physical domain	0.80	0.33	0.13	0.09
Psychological domain	0.10	0.21	0.15	0.64
Social relations domain	- 0.78	0.35	0.19	0.81
Environmental domain	0.11	0.18	0.18	0.02*
QOL	0.05	0.53	0.13	0.10

* p < 0.05. QOL: quality of life. r: Pearson's correlation coefficient

DISCUSSION

The results obtained in the present study revealed a better evaluation by the male medical practitioners with respect to the physical domain. Men are less influenced by factors related to physical, emotional and mental load than women. Throughout life, women undergo physical and emotional transformations, often under hormonal influence, which are widely observed in certain periods, such as after menopause and during puberty⁽¹²⁾.

Women are more exposed than men to physical and mental problems and show greater tendency to stress and professional dissatisfaction at work^(13,14). In the current study, however, there was a tendency regarding the psychological domain, and this tendency was regarded as one of the main causes of illness for the medical practitioner, keeping in mind that the mental dynamics interfere with the quality of life, since it modifies the individual's perception of their own existence, so that medical practitioners with a pathological profile in the psychological domain obtain lower QOL when compared to the general population⁽¹⁵⁾.

Precarious working conditions, with strenuous shifts, multiplicity of activities, occupational stress and wage reduction have been pointed out as aggravating factors in poor QOL in the general population, and present a positive correlation with Burnout syndrome⁽¹⁶⁾.

The environmental domain (p=0.032) also obtained a better evaluation by the male medical practitioners in the present study, because women generally face double or triple shift, with their household and maternal obligations interfering with the facets of the environmental domain, such as the home environment, health safety, recreation and leisure. Furthermore, they are more exposed to physical and mental problems than men, perhaps for being more concerned about the feelings, self-esteem, beliefs, personality development, cognitive processes and other aspects related to human development⁽¹⁷⁾.

In studies conducted in Germany^(11,19) with surgeons and non-surgeons (physicians working in a clinical area), the QOL of surgeons was inferior in all domains when compared to that of non-surgeons, and this was justified by the workload of the former, which is increased by many times compared to that of non-surgeons, so that surgeons are not satisfied with work and hierarchy. There was no statistically significant difference between surgeons and non-surgeon physicians in the present study, which shows a different behavior compared to the German study, though consistent with the current Brazilian medicine, in which most medical practitioners lack any specialist qualification.

The proportion between specialists and non-specialists is 1.8 in Brazil, compared to 17.8 in Germany⁽²⁰⁾. A large part of them work in emergency departments, whereas, in the study conducted in Germany, a large part is composed of residents, who work in private clinics and already have some specialist degree⁽²¹⁾. The complexity of work in the emergency departments where they operate, along with the lack of training on the part of physicians working in clinical areas in Brazil⁽²⁰⁾, explains why their results are similar to the surgeons'.

When comparing the medical practitioners who work alternative shifts to those working regular day shifts in the current study, there were significant statistical differences in the overall perception of QOL ($p=0.024$), and the variable workload proved to be independent. In Brazil, medical work schedules are varied, with 24-hour weekly shifts being more common, starting at night after a normal work day, which causes the medical practitioners involved in this regime to continue working, almost without sleeping, for more than 36 hours⁽⁷⁾.

The association between sleep deprivation and poor QOL begins in the academic life, with strenuous study days, where sleeping hours are negatively correlated with academic performance⁽²²⁾. In another study carried out with resident medical practitioners submitted to strenuous workloads⁽²³⁾, it was demonstrated that working in shifts presents difficulties not only because of the actual loss of hours of sleep, but also because this may affect other factors related to the lifestyle, such as the food intake and the level of physical activity and, therefore, the metabolic patterns⁽²⁴⁾.

Thus, the practitioner who work alternative shifts presents a decrease in individual performance, with a chronic fatigue syndrome, which justifies the difference in the QOL between shift- and non-shiftworkers in the present study.

Between the physicians who are shift- and non-shiftworkers there were statistically significant differences in the domain of social relations in this research, which can, in turn, be justified by the fact that the shiftworkers perform their tasks in medical emergency departments with high complexity cases, demanding great physical and mental effort. Thus, the relevance of social and personal relationships (longer reading time, cultivation of friendship and family relationships) may be directly related to the work environment⁽²⁵⁾, also justifying the emergence of a statistical difference in the environment, which has the work environment as one of its facets.

Favoring the findings, high levels of stress were observed among medical practitioners working alternative shifts in specialized Anesthesiology, and the greater length of work experience correlated with lower rates of emotional fatigue, since these professionals tend to remain in the same workplace for longer over the years^(26,27). As a large part of the present study sample comprises medical practitioners without any specialist qualification, it justifies the lower statistical difference found in the environment domain.

When comparing the QOL and its respective domains according to the salary range, no statistical difference was observed in the current study, in agreement with a study carried out at UNESP, in which medical school graduates present wage income proportional to the quality of life⁽²⁸⁾.

Nevertheless, as there is no study performed with medical practitioners in the emergency department, a study carried out with a nursing team in the emergency department was used to draw a comparison, thus evidencing an inverse relationship between quality of life and the income - salary range⁽²⁹⁾, being consistent with the findings that income does not directly influence the quality of life. The justification would be in the very definition of quality of life, which evaluates the individual in the environment in which they are inserted. Thus, in order to obtain higher income, the individual would have to increase their workload, even exceeding their psychophysiological limits.

Given the findings of this research, and the fact that these professionals are directly related to the public health of the analyzed municipality, this research contributes to rethinking the professionals' activities and their implications for the problem-solving capability of the public health services⁽³⁰⁾. It was found that the profile of female physicians working in a clinical area is the closest to the gold standard in health promotion, but most of these medical practitioners also work alternative shifts and not exclusive to primary health care and, as has been shown, most of them present a decline in the domain of the environment, this being extremely necessary for the professional who provides care.

CONCLUSION

There was no significant difference between the investigated medical practitioners, working in the clinical and surgical areas, as concerns the quality of life and its domains in a global way, but those who choose to perform alternative shifts have lower self-perceived quality of life and a worsened result in the domain of social relations.

The comparison between the sexes showed that male practitioners presented a more satisfactory performance in the physical and environmental domains. It was also evidenced that the salary range does not directly influence the quality of life of the evaluated professionals.

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Mailing address:

Hugo Machado Sanchez
Universidade de Rio Verde - UNIRV
Fazenda Fontes do Saber
Caixa Postal 104
CEP: 75901-970 - Rio Verde - GO - Brasil
E-mail: andre.alsj01@gmail.com