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ORIGINAL ARTICLE

POST-COVID-19 HEALTH PROFESSIONALS' QUALITY OF LIFE: A CROSS-SECTIONAL STUDY

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ABSTRACT

Objective: to evaluate the quality of life of healthcare professionals tested for covid-19 in a polyclinic in the state of Rio de Janeiro.

Method: cross-sectional study with 476 health professionals who underwent covid-19 testing from March to July 2020. A World Health Organization sociodemographic and quality of life questionnaire was applied. Scores for each domain were transformed into a 0-100 scale; higher means suggested better perceived quality of life.

Results: the most compromised domain was the environment (related to home environment, financial resources, leisure, environment) and the physical domain was the least compromised (related to pain, discomfort, energy, mobility, activity).

Conclusion: it is emphasized that post covid-19 healthcare professionals need a thorough look at their quality of life, since they are more prone to negative outcomes by acting in the pandemic, with impact mainly on leisure, pain, discomfort, among others.

DESCRIPTORS: Quality of Life; Coronavirus Infections; COVID-19; Health Personnel; Gender.

CALIDAD DE VIDA DE LOS PROFESIONALES DE LA SALUD DESPUÉS DEL COVID-19: UN ESTUDIO TRANSVERSAL

RESUMEN:

Objetivo: evaluar la calidad de vida de los profesionales de la salud sometidos a la prueba del covid-19 en una policlínica del estado de Río de Janeiro. Método: estudio transversal con 476 profesionales sanitarios que se sometieron a la prueba del covid-19 entre marzo y julio de 2020. Se aplicó un cuestionario sociodemográfico y de calidad de vida de la Organización Mundial de la Salud. Las puntuaciones de cada dominio se transformaron en una escala de 0 a 100; las medias más altas sugieren una mejor percepción de la calidad de vida. Resultados: el dominio más comprometido fue el entorno (relacionado con el ambiente del hogar, los recursos financieros, el ocio, el ambiente) y el dominio físico fue el menos comprometido (relacionado con el dolor, el malestar, la energía, la movilidad, la actividad). Conclusión: se salienta que los profesionales de la salud por debajo de los 19 años necesitan un cuidado minucioso sobre su calidad de vida, ya que son más propensos a los efectos negativos de la pandemia, con impacto principalmente en el recreo, el dolor, el malestar, entre otros.

DESCRIPTORES: Calidad de Vida; Infecciones por Coronavirus; COVID-19; Personal de Salud; Género

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INTRODUCTION

Quality of life is not defined only by the valuation of parameters related to symptoms, but also by personal and social factors, as well as measures of disability and psychological well-being[1]. According to the World Health Organization (WHO), quality of life can be defined as: "[...] an individual's perception of his or her position in life in the context of the culture and value system in which he or she lives and in relation to his or her goals, expectations, standards, and concerns"[2].

The WHO Quality of Life group[3] carried out an analysis demonstrating the possibility of developing an applicable and valid measure of quality of life for use in several cultures, the result of which was the elaboration of the World Health Organization Quality of Life-100 (WHOQOL-100). Due to the need of short and quickly applicable instruments, the short version, the WHOQOL-bref was developed, whose final version is composed of 26 questions[4]. This instrument assesses the physical (activities of daily living), psychological (suffering, self-esteem), social (personal relationships), environmental (physical safety) and social (leisure) domains[4].

Regarding the context of covid-19, it is known that it is a disease that generally manifests with flu symptoms, however, this pathology can worsen and evolve to Severe Acute Respiratory Syndrome (SARS)[5]. SARS is defined by the presence of dyspnea or the following signs of severity: Peripheral Capillary Oxygen Saturation (SpO_2) lower than 95% in room air, signs of respiratory distress or increased respiratory rate evaluated according to age, worsening in the clinical conditions of the underlying disease and hypotension in relation to the usual blood pressure; individual of any age with acute respiratory failure during the seasonal period[5-6].

Both the disease and the aggravation by covid-19 can generate sequelae that affect the quality of life of patients after cure of the disease. Studies point out, for example, the loss of taste and smell even after the decrease in respiratory symptoms, remaining for months after cure[7]. Thus, it is important to know the quality of life of people who were tested for covid-19, with positive or negative diagnoses, to guide clinical approaches that can improve their quality of life.

Thus, the present study aims to evaluate through the WHOQOL-bref the quality of life of health professionals tested for covid-19 in a Polyclinic in the state of Rio de Janeiro.

METHOD

This is a descriptive, cross-sectional, quantitative study. The field of collection was a polyclinic in the state of Rio de Janeiro, Brazil, a reference in the care of health professionals with suspected covid-19, within the Health Care Network (RAS) of the Brazilian Unified Health System (SUS). To be a reference for covid-19, the institution had its operation restructured aiming to receive suspected professionals who needed testing for the disease.

Data collection occurred in July 2020, using a form in the Google forms tool based on the validated WHOQOL-bref[4] quality of life scale. This form contained all the questions of this instrument. Symptomatic health professionals were attended, and sociodemographic (including email) and clinical data were collected.

Later, from this initial collection, the forms were sent to the professionals' e-mail addresses. On the first page of the form, there was the Informed Consent Form (ICF), and if the participant agreed to participate in the research, he/she marked yes and then was directed to the next page, where the questions of the quality-of-life form began.

The study sample consisted of 476 participants, health professionals, who came to the Polyclinic during the pandemic to be tested.

The selection of participants was by non-probability intentional sampling in a consecutive way, and the following inclusion criterion was established: participants who attended the Polyclinic with covid-19 symptoms in the period from March to June 2020 to undergo testing. Exclusion criterion: professionals who did not answer the questionnaire after three attempts to send it by email. Individuals who met the inclusion criteria and agreed to participate in the study by signing the online ICF were selected.

For data collection, an online form was structured with clinical and sociodemographic variables of the participants: gender, race, age, level of education, professional activity, and number of ties.

The response variable was Quality of life (QL). For this, the WHOQOL-bref was used, consisting of 26 questions on a five-point Likert scale and that considers the last 15 days lived by the respondent. Two questions refer to the individual perception of quality of life, and the others are subdivided into four domains and represent each of the 24 facets that make up the original instrument (WHOQOL-100). They are:

(a) Domain I - Physical: pain and discomfort, energy and fatigue, sleep and rest, mobility, activities of daily living, dependence on medication or treatments, and work capacity.

(b) Domain II - Psychological: positive feelings, thinking, learning, memory and concentration, self-esteem, body image and appearance, negative feelings, spirituality, religion, and personal beliefs.

(c) Domain III - Social relations: personal relationships, social support, sexual activity.

(d) Domain IV - Environment: physical safety and security, home environment, financial resources, and health care.

(e) Domain V - Social: availability and quality, opportunity to acquire information and skills, participation and recreation/leisure opportunities, and physical environment (pollution, noise, traffic, weather, and transportation).

The scores for each domain were transformed into a scale from 0 to 100 and expressed in terms of averages, as recommended by the manual produced by the WHOQOL7 team, with higher averages suggesting a better perception of QoL[4].

Subsequently, the data were tabulated in Microsoft Excel spreadsheets, constituting a database, analyzed according to descriptive statistics with relative and absolute frequencies, as well as presentation in graphs. In addition, the scores, and descriptive statistics of the WHOQOL-bref instrument were calculated using Microsoft Excel[8]. The conversion of scores was done through the WHOQOL-bref manual scoring, which has a conversion table based on the mean values of each domain[9]. Thus, this study included a global index and four for the domains by the average of the items, scores from 0 to 100, with no cutoff point that is considered good or bad quality of life, but as explained, higher averages suggest better quality of life[4].

The present investigation was approved in the Research Ethics Committee under Opinion number 4,079,897. All ethical principles contained in the Declaration of Helsinki and Resolution 466/2012 were respected.

RESULTS

Of the 480 participants, only four had no indication (criteria related to times of signs and symptoms and severity of symptoms established by the institution) to test for covid-19.

About the clinical characteristics of the 476 participants, 370 (77.7%) were female, white 53.1% (254), with a mean age of approximately 42 years (SD=9), with a graduate level of education 50.2% (245), of the professional category of technician or nursing assistant 20.8% (97), with a single employment relationship 65% (312).

Regarding covid-19, regarding the type of diagnostic test, 45% of the 476 who tested, were diagnosed by RT-PCR (real-time polymerase chain reaction) (Figure 1).

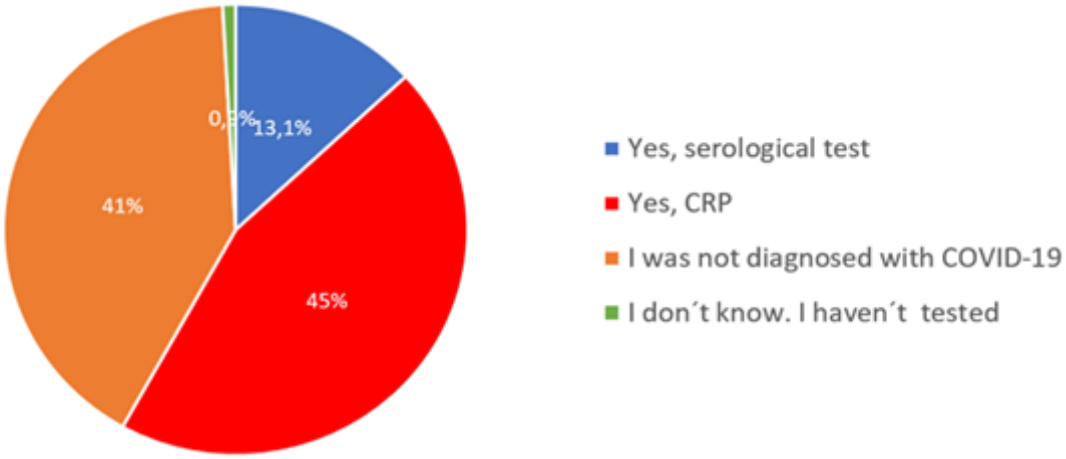

Figure 1 - Diagnostic test for covid-19 in the 476 participants. Rio de Janeiro, RJ, Brazil, 2020
Source: Authors (2020)

It is worth noting that of the 476 participants who were tested, 196 (41.2%) had a negative diagnosis and 280 (58.8%) were positive. About the quality of life of the participants, 52.7% (252) considered their quality of life good, being 107 (42.5%) among the participants who did not have covid-19 and 145 (57.5%) among those who had the disease.

Table 1 shows the descriptive analysis of the scores achieved by the research participants in each domain of the quality-of-life questionnaire. The general average of the quality-of-life score was 65.7, with 67.4 in the physical domain, 67.7 in the psychological domain, 66.0 in the social relations domain, and 61.8 in the environmental domain. The most compromised domain was the environment (related to home environment, financial resources, leisure, physical environment, etc.) and the physical domain was the least compromised (related to pain, discomfort, energy, mobility, activity, etc.).

Table 1 - Descriptive analysis of the scores achieved by the research participants. Rio de Janeiro, RJ, Brazil, 2020 (continues)

Domain	Average	Minimum	Maximum	Standard Deviation
Physical	67,4	53,6	82,2	9,7

Psychological	62,4	62,4	79,6	6
Social relations	66	60,2	69,6	5,1
Environment	61,8	54,6	72	6

Source: Authors (2020)

Table 2 shows the quality-of-life scores by gender. The overall average QoL score was higher in men (68.0) than in women (65.7). As for the domains, the score of the environment domain was the most compromised in both genders, and the psychological domain (self-esteem, body image, appearance, feelings, etc.) was the least affected.

Table 2 - Quality of life scores by gender. Rio de Janeiro, RJ, Brazil, 2020

Domain	Average	Minimum	Maximum	Standard Deviation
FEMALE				
Physical	67.3	53.5	82.3	9.9
Psychological	67.7	61.4	79.9	6.5
Social relations	65.0	58.5	69.8	6.2
Environment	63.2	56.9	72.2	5.8
MALE				
Physical	69.6	54.2	81.8	8.9
Psychological	71.4	66.0	79.2	4.7
Social relations	67.2	65.4	69.5	2.1
Environment	63.9	57.2	71.6	5.0

Source: Authors (2020)

In Table 3, when describing the main professions that appear in the survey, it is observed that the overall average quality of life score of nursing technicians (60.7) and nurses (65.25) was more compromised than that of physicians (71.6). It is observed that the environment domain was the most compromised for technicians and nurses, but for physicians it was the psychological domain. Regarding the least affected domain, for technicians and nurses it was the psychological domain and for physicians the physical domain.

Table 3 - Professions of the research subjects. Rio de Janeiro, RJ, Brazil, 2020 (continues)

Domain	Average	Minimum	Maximum	Standard Deviation
NURSING TECHNICIAN				
Physical	61.6	47.2	74.3	9.0

Psychological	64.8	56.8	75.0	6.0
Social relations	60.9	59.3	65.4	6.3
Environment	55.6	48.0	64.9	6.2
NURSE				
Physical	66.3	53.4	80.6	10.2
Psychological	67.6	61.3	79.7	6.5
Social relations	65.5	60.6	69.6	4.61
Environment	61.6	52.3	73.4	7.43
PHYSICIAN				
Physical	73.9	58.6	88.8	10.9
Psychological	70.2	64.0	81.3	6.4
Social relations	70.4	67.1	74.2	3.6
Environment	72.0	59.1	84.8	9.3

Fonte: Autores (2020)

DISCUSSION

The present study allowed to evaluate the quality of life, through the WHOQOL-bref, of health professionals tested for covid-19 in a Polyclinic in the state of Rio de Janeiro, obtaining a predominance of female participants, with an average age of approximately 42 years (SD=9), as well as predominance of the activity of nursing technician/auxiliary. When we highlight the category 'nursing technician/auxiliary' and the female gender as most of the research subjects, it is understood that this is in line with WHO data that shows that 70% of the workforce in health care is female[10].

The conformation of the sample is justified especially because the Polyclinic in question is a reference for performing the covid-19 test in health professionals in the state of Rio de Janeiro. It also corroborates data from the research 'Nursing profile in Brazil', which points out that 77% of the nursing team is composed of nursing technicians/assistants[11]. The nursing team is recognized as the one that is effectively in the front line of care, directly involved in providing care to patients, symptomatic or not, which shows greater susceptibility to infection by covid-19, as well as justifies the portion of technicians/nursing assistants in the sample[12].

In the quality-of-life score, the most compromised domain was the environment, (related to home environment, financial resources, leisure, physical environment etc.), and the physical was the least compromised (related to pain, discomfort, energy, mobility, activity etc.). The significant quality of life in users with covid-19 contradicts recent studies that indicate that the sequelae of the disease, such as fatigue and dyspnea, can persist for up to two months in 87.4% of cases[13].

These results can be explained by the fact that the pandemic brings about leisure deprivation, changes in the family's financial resources, which stood out as being more impactful when compared to the issue of physiological changes by covid-19. Moreover, a study in Italy points out that physiological changes are less impactful than emotional and psychological issues[14].

Regarding gender and score, the overall average quality of life had a higher score

in men (68.0) than in women (65.7). As for the domains, there was no difference between genders; in both, the score of the environment domain was the most compromised and the psychological domain (self-esteem, body image, appearance, feelings etc.) was the least affected. The psychological aspect is usually indicated as the most compromised, both in studies with the general population and with health professionals[14-16], however, regardless of gender, the environment domain (related to home environment, financial resources, leisure, physical environment) was the most compromised in this research.

It is important to highlight that the quarantine, with the deprivation of leisure, meetings, and routine, has a more important impact on the lives of the participants of this study than other domains such as the psychological. These deprivations, in the long run, may affect the psychological domain and compromise the mental health of the individuals.

Furthermore, when dividing the score among the healthcare professionals who were treated and tested for covid-19, both nursing technicians and nurses had the overall mean quality of life score more compromised when compared to physicians, respectively 60.7, 65.25, and 71.6. The domain most affected for nursing technicians and nurses was the environment, which encompasses the physical environment (pollution/noise/traffic/climate), transportation, participation, and recreation/leisure opportunities, among others. For physicians, the most compromised domain was the psychological one, where aspects such as negative feelings, thinking, learning, memory, and concentration are included.

The fact that the domains most affected in the professionals are the environment and the psychological one ratifies data found in a systematic review that points out a high number of infected professionals, as well as the work overload and the fear of their infection and their close circle as risk factors for infection and, in some cases, consequent death of health professionals[17].

The quality of life of professionals, especially nursing professionals, is directly influenced by the physical and organizational structure, differentiated workload, often with several jobs, and work overload, already pointed out before the pandemic as challenging factors to health practice. Coupled with the strenuous activities that caring for patients with covid-19 requires, the fear of transmitting the disease to their families may also justify the QoL score tied to nurses and technicians, since by October 2020 there were 41,926 confirmed cases and 454 deaths from covid-19 in nursing professionals in the country[18-19].

As a limitation of the study, we highlight the fact that it is a cross-sectional study, which makes it impossible to draw large causal inferences, and that the sampling technique was not probabilistic, which makes it impossible to extrapolate the data.

CONCLUSION

This study sought to evaluate the quality of life of symptomatic healthcare professionals who tested for covid-19 in a Polyclinic in the state of Rio de Janeiro. The overall mean quality of life score was 65. Men have a better quality of life when compared to women, and regarding the most affected domain, both consider the environment domain.

Physicians have better quality of life scores when compared to nurses and nursing technicians. For nursing technicians and nurses, the environment domain was the most compromised, which may be related to insecurity and uncertainty in the work environment, financial resources, leisure, home environment, among others. For physicians, the most affected was the psychological domain, related to feelings, self-esteem, body image, etc. Thus, one can highlight differences in the perception of quality of life for men and women, as well as between professions.

As a contribution of this study to the area, in view of the above, we highlight the need for a more careful and thorough look at the factors that affect the QoL and, consequently, the health of post-covid-19 health professionals, since, in the face of this pandemic, much is demanded of the physical, intellectual, sentimental, and emotional abilities of these professionals, which can, in the long run, lead to illness in these classes.

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