

## Professional Quality of Life in Healthcare Workers During the COVID-19 Pandemic

### *Calidad de vida profesional en trabajadores sanitarios durante la pandemia de COVID-19*

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#### Summary

**Objective:** To evaluate the professional quality of life in healthcare workers during the COVID-19 pandemic in Mexico. **Methods:** an analytical cross-sectional study conducted in clinical and administrative workers of a Primary care level unit. To assess managerial support, workload, and intrinsic motivation the Professional Quality of Life questionnaire (QPL-35) was applied. Descriptive statistics were performed with frequencies, percentages, mean, and standard deviation. To compare the quality-of-life scores according to demographic, clinical, and work characteristics of the workers, Student's t-tests,  $\chi^2$  and Kruskal-Wallis tests were used; a p value of  $<0.05$  was considered statistically significant. The information was analyzed in the SPSS v. 25 statistical program. **Results:** 246 health professionals participated, 66.3% were women, and the average age was  $36.77 \pm 8.81$  years. There were 0.81% of workers with poor quality of life, 45.12% fair quality of life, and 54.06% good quality of life. The quality of professional life obtained a mean of  $245.75 \pm 36.31$  points. In managerial support, a significant statistical difference was found in the type of hiring ( $p=0.01$ ); in workload, a statistical difference was found in level of studies ( $p<0.001$ ), and finally in the intrinsic motivation in gender ( $p=0.001$ ). **Conclusion:** health care workers presented a regular perception of professional quality of life during the third wave of COVID-19. However, there are various studies published for our country that allows us to place ourselves on a scale or make a comparison with other institutions in terms of quality of life.

**Key words:** COVID-19, Quality of Life, Primary care, Healthcare Personnel

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## Resumen

**Objetivo:** evaluar la calidad de vida profesional en trabajadores sanitarios durante la pandemia de COVID-19 en México. **Métodos:** estudio transversal analítico realizado en trabajadores clínicos y administrativos de una unidad de primer nivel de atención. Se aplicó el instrumento calidad de vida profesional (CVP-35) que evalúa apoyo directivo, carga de trabajo y motivación intrínseca. Se realizó estadística descriptiva con frecuencias, porcentajes, media y desviación estándar. Para comparar los puntajes de la calidad de vida según características demográficas, clínicas y laborales de los trabajadores se utilizaron las pruebas t de Student,  $\chi^2$  y Kruskal-Wallis, se consideró un valor de  $p < 0.05$  como estadísticamente significativo. La información se analizó en el programa estadístico SPSS v. 25. **Resultados:** participaron 246 profesionales de la salud, 66.3% fue mujer y la edad promedio fue de  $36.77 \pm 8.81$  años. Se observó 0.81% de los trabajadores con mala calidad de vida, 45.12% con calidad regular de vida y 54.06% con buena calidad de vida. La calidad de vida profesional obtuvo una media de  $245.75 \pm 36.31$  puntos. En la dimensión apoyo directivo se encontró diferencia estadística significativa en el tipo de contratación ( $p = 0.01$ ); en la dimensión carga de trabajo se encontró diferencia estadística en la escolaridad ( $p < 0.001$ ) y finalmente en la dimensión motivación intrínseca en el sexo ( $p = 0.001$ ). **Conclusión:** los trabajadores sanitarios presentaron una percepción regular sobre la calidad de vida profesional durante la tercera ola de COVID-19.

**Palabras clave:** COVID-19, calidad de vida, atención primaria, personal sanitario.

## Introduction

Professional quality of life is defined as the experience of well-being derived from the balance perceived by the worker between work challenges, intense and complex tasks, and available resources (psychological, organizational, and relational) to cope with professional demands.<sup>1</sup> This perception can be influenced by personal factors such as age, gender, type of personality, work factors (years of experience in the position or service, seniority in the institution where he/she works, shift, activities performed), and family factors.<sup>2-4</sup>

It has been pointed out that some factors can be influenced by the individuals themselves, and even by the bosses or supervisors, due to the impact that directives can have on the worker.<sup>5</sup>

Lee et al.,<sup>6</sup> describe that being a healthcare worker is satisfying, but it is not free of physical demands, irregular schedules, long shifts, direct attention to suffering, and dying patients. All these variables can diminish and negatively impact the perception of quality of work life, and thus directly affect the physical and mental health of professionals.

The pandemic caused by SARS-COV-2 and its associated disease: COVID-19, which emerged in Wuhan, China, quickly spread and generated concerns in health systems around the world. Treating it led to increased workload, physical strain, isolation, and loss of social support, risk of transmission, and unprecedented ethical concerns about rationing of care, all of which had an impact on the physical and mental well-being of health care workers.<sup>7</sup>

During the different waves of the pandemic, family medicine units were a key element in care; as the first contact, they confirmed cases and decided which

patients needed a second or third level of care for timely referral. However, because it was an unknown disease, care protocols changed based on the new evidence available and were constantly updated to treat patients with and without COVID-19, and thus stop the chain of contagion.

In addition, it has been noted that the perception of little managerial support, and the constant change in operational lines for the care of patients with COVID-19 had a negative impact on professional quality of life.<sup>8</sup> Serrão et al.<sup>9</sup> identified that caring for patients during the pandemic represented a new and complex work environment that, when inadequate, could lead to burnout among workers. Varrasi et al.,<sup>10</sup> noted that the quality of professional life is directly related to the mental health of workers and that there is a relationship between quality of care and the perception of professional life.

Therefore, the aim of the present study was to evaluate the quality of professional life in primary health care workers during the third wave of COVID-19 in Mexico.

## Methods

An analytical cross-sectional study conducted at the Family Medicine Unit No. 51 in Guadalajara, Jalisco Mexico.

The participants were employees of the unit, both union and non-union workers, from the administrative and clinical areas, as well as undergraduate (social service interns) and postgraduate students (family medicine residents) assigned to the unit. The sampling used was by convenience.

Data collection was carried out in two ways: 1) a sociodemographic data questionnaire and the Professional Qua-

lity of Life Questionnaire (QPL-35) were applied personally, and 2) the aforementioned instruments were applied through Google Forms. Data were collected from September 2021 to January 2022. The included variables were gender, age, presence of comorbidities, marital status, level of studies, work category, type of contract, and having a second job outside the institution.

The professional quality of life was determined by means of the QPL-35 instrument, which consists of 35 questions, the answers have a Likert-type scale from 0 to 10 (none= 0, a lot= 10) which formed three dimensions: managerial support, perceived workload, and intrinsic motivation. The results are interpreted in three categories: good (246 to 350 points), fair (140 to 245 points), and poor (35 to 139 points); it also has an independent question aimed at ascertaining the perceived quality of professional life.<sup>11</sup> This instrument has been validated in Spanish and has a Cronbach's alpha of 0.93.<sup>12</sup>

Once the data were obtained, descriptive statistics were performed and frequencies, percentages, means, and standard deviation were calculated. To compare the differences between the obtained scores in the quality of life according to demographic, clinical, and labor characteristics of workers, Student's *t*,  $\chi^2$ , and Kruskal-Wallis statistical tests were used; a *p* value of <0.05 was considered statistically significant. The information was analyzed in the SPSS v. 25 statistical program.

The protocol of this study was approved by the Local Health Research and Ethics Committee 1307 of the Mexican Institute of Social Security -registration number R-2020-1307-002- and was classified as a minimal risk research.

## Results

A total of 246 workers participated, including operative, temporary, non-union personnel, and students. 66.3% (n= 163) were women, and 33.7% (n= 83) men. The average age was  $36.1 \pm 8.81$  years. The predominant marital status was single with 42.7% (n= 105), followed by married 37% (n= 91). Widowhood was present in 0.8% (n= 2) of the participants.

Regarding the type of contract, 6.1% (n= 15) reported being non-union personnel, 19.5% (n= 48), students (undergraduate and postgraduate), and 74.4% (n= 183) operative or union personnel (permanent or temporary).

Regarding the educational level, the most frequent was complete bachelor's degree with 37% (n= 91) of the participants, followed by medical specialists with 26% (n= 64) and 18.3% (n= 45) with complete high school.

69.1% (n= 170) considered themselves healthy, and 16.3% (n= 40) reported having a second job.

Participants' categories and results on quality of life are described in Table 1.

Professional quality of life obtained a mean of  $245.75 \pm 36.31$  points. The question that evaluates the perception of quality of life, an average of  $7.42 \pm 2.30$  points was obtained.

In the sum of the 35 items to obtain the quality of professional life, two responses were obtained with poor quality of life (0.81 %), 111 with fair quality of life (45.12 %), and 133 with good quality (54.06 %).

Regarding the relationship between demographic and labor characteristics, and quality of work life, a statistically significant association was found when living as a couple, and the level of studies correspond to a bachelor's degree or higher (Table 2).

**Table 1. Professional Quality of Life by Job Category**

| Personnel Category                              | Quality of Life Perception |      |      | Total |
|---|----------------------------|------|------|-------|
|   | Bad                        | Fair | Good |       |
| Nursing   | 0                          | 9    | 24   | 33    |
| Physician                                       | 0                          | 28   | 42   | 70    |
| Medical Assistant                               | 0                          | 31   | 18   | 49    |
| Administrative Staff                            | 0                          | 14   | 14   | 28    |
| Maintenance and Upkeep                          | 0                          | 6    | 7    | 13    |
| Graduate Students (residents)                   | 1                          | 13   | 13   | 27    |
| Nutrition                                       | 0                          | 1    | 0    | 1     |
| Undergraduate Students (Social Service interns) | 0                          | 5    | 8    | 13    |
| Laboratory                                      | 0                          | 1    | 0    | 1     |
| Non-union workers                               | 0                          | 2    | 6    | 8     |
| Social Work                                     | 1                          | 1    | 1    | 3     |
| Total   | 2                          | 111  | 133  | 246   |

**Table 2. Comparison of Demographic and Job Characteristics with Professional Quality of Life**

| Characteristics                 | n   | Media  | from  | p*     |
|---------------------------------|-----|--------|-------|--------|
| <b>Gender</b>                   |     |        |       |        |
| Woman                           | 163 | 250.33 | 33.41 | 0.06   |
| Man                             | 83  | 236.89 | 40.16 |        |
| <b>Living in a couple</b>       |     |        |       |        |
| Yes                             | 119 | 251.41 | 33.85 | 0.02   |
| No                              | 127 | 240.53 | 37.85 |        |
| <b>Level of Studies</b>         |     |        |       |        |
| Less than a bachelor's degree   | 170 | 241.77 | 39.09 | 0.003  |
| Bachelor's degree or more       | 76  | 254.79 | 27.29 |        |
| <b>Has a comorbidity</b>        |     |        |       |        |
| Yes                             | 76  | 247.18 | 36.59 | 0.69   |
| No                              | 170 | 245.17 | 36.27 |        |
| <b>Type of Contract</b>         |     |        |       |        |
| Union worker                    | 183 | 244.09 | 38.47 | 0.10** |
| Intern                          | 48  | 246.35 | 24.69 |        |
| Non-union worker                | 15  | 264.73 | 36.89 |        |
| <b>Extra-institutional work</b> |     |        |       |        |
| Yes                             | 40  | 246.70 | 39.94 | 0.86   |
| No                              | 206 | 245.62 | 35.66 |        |

\*Student's T-test for independent samples

\*\* Kruskal-Wallis Test

Statistical Significance  $p < 0.05$ 

Regarding each of the dimensions that make up the quality of professional life, in relation to demographic and work characteristics, a statistically significant difference was found in the dimension of managerial support, and type of contract; in this analysis, non-union personnel had the highest score. In relation to the workload dimension, statistically significant differences were found in level of studies, where the higher the level, the higher the quality of professional life. Likewise, living as a couple made a difference in those whose quality of professional life was higher. Finally, with respect to intrinsic motivation, it was found that women had a higher quality of professional life. Results are shown in Table 3.

When comparing the demographic and work characteristics with the quality of professional life, it was identified that having a bachelor's degree or higher the quality of professional life was higher, and a statistically significant association was shown. Table 4.

### Discussion

Conducting this study during the COVID-19 pandemic yields results that are characteristic of the study period. Kandula et al.,<sup>13</sup> mentioned that the increased work demands of working in an environment with changing situations can have a negative impact on the personal lives of workers. However, in this study only two participants had a poor professional quality of life.

Ortega et al.,<sup>14</sup> describe that primary care physicians are the most affected professional profile by the pandemic, so it is important to identify the variables that favor their daily performance. This study included personnel who performed their activities at the primary care level. Our findings on gender and perception of quality of life coincide with those reported by Ortega et al.,<sup>14</sup> possibly because First-line care is mainly provided by women.

A systematic review of the quality of professional life of nurses in primary care by Laserna et al.,<sup>15</sup> identified that high workload is the variable that most influences the perception of inadequate professional quality; however, there is not enough evidence to evaluate this group. Thirty-three nurses participated in this study, of whom 24 obtained a score higher than 246 points, which corresponds to a good quality of life.

Ruiz et al.,<sup>16</sup> reported that level of studies, and cultural context can influence health professionals' perceptions of responsibility and duty of care in different work settings. In this study, level of schooling was identified as statistically significant for participants' workload. In addition, data collection was conducted after the third COVID-19 wave and during the fourth wave, which may have influenced the responses. Respiratory care modules were implemented and clinical staff were rotated, so most participants had direct care with COVID-19 positive, and suspect patients.

Quijada et al.,<sup>11</sup> reported in their study of health care workers that the quality of professional life was fair (average= 213), the intrinsic motivation was the highest rated (average= 76), followed by workload (average= 68), and managerial support (average= 65). The obtained

**Table 3. Comparison of Demographic and Job Characteristics with the Dimensions of the cvp-35**

|                    | Characteristics             | n     | Media  | from  | p*     |  |
|--------------------|-----------------------------|-------|--------|-------|--------|--|
| Managerial Support | Woman                       | 163   | 88.99  | 20.52 | 0.32   |  |
|                    | Man                         | 83    | 86.23  | 20.94 |        |  |
|                    | Living in a couple          |       |        |       |        |  |
|                    | Yes                         | 119   | 89.80  | 18.31 | 0.20   |  |
|                    | No                          | 127   | 86.43  | 22.59 |        |  |
|                    | Level of Studies            |       |        |       |        |  |
|                    | Less than bachelor's degree | 170   | 88.01  | 21.71 | 0.95   |  |
|                    | Bachelor's degree           | 76    | 88.17  | 18.25 |        |  |
|                    | Has a comorbidity           |       |        |       |        |  |
|                    | Yes                         | 76    | 87.75  | 22.67 | 0.88   |  |
|                    | No                          | 170   | 88.19  | 19.77 |        |  |
|                    | Type of Contract            |       |        |       |        |  |
|                    | Union worker                | 183   | 87.52  | 21.41 | 0.01** |  |
|                    | Intern                      | 48    | 85.58  | 15.63 |        |  |
|                    | Non-union worker            | 15    | 102.47 | 21.14 |        |  |
|                    | Extra-institutional work    |       |        |       |        |  |
| Yes                | 40                          | 86.65 | 20.93  | 0.64  |        |  |
| No                 | 206                         | 88.33 | 20.65  |       |        |  |
| Workload           | Woman                       | 163   | 70.88  | 16.60 | 0.06   |  |
|                    | Man                         | 83    | 66.30  | 19.61 |        |  |
|                    | Living in a couple          |       |        |       |        |  |
|                    | Yes                         | 119   | 71.77  | 17.14 | 0.04   |  |
|                    | No                          | 127   | 67.06  | 18.11 |        |  |
|                    | Level of Studies            |       |        |       |        |  |
|                    | Less than bachelor's degree | 170   | 66.16  | 18.01 | <0.001 |  |
|                    | Bachelor's degree or more   | 76    | 76.45  | 15.04 |        |  |
|                    | Has a comorbidity           |       |        |       |        |  |
|                    | Yes                         | 76    | 71.03  | 18.77 | 0.32   |  |
|                    | No                          | 170   | 68.58  | 17.31 |        |  |
|                    | Type of contract            |       |        |       |        |  |
|                    | Union worker                | 183   | 68.10  | 18.50 | 0.19** |  |
|                    | Intern                      | 48    | 73.67  | 14.93 |        |  |
|                    | Non-union worker            | 15    | 70.53  | 15.57 |        |  |
|                    | Extra-institutional work    |       |        |       |        |  |
| Yes                | 40                          | 72.60 | 20.70  | 0.20  |        |  |
| No                 | 206                         | 68.70 | 17.13  |       |        |  |

results in this study were similar in reporting a regular quality of life, but the evaluation of the dimensions scored managerial support first, followed by intrinsic motivation, and finally workload.

Rodriguez et al.,<sup>17</sup> reported that health professionals with an operational role perceived a greater sense of abandonment by their institution than their colleagues in managerial roles. This finding is similar to ours, in which there was statistical significance between the type of contract, and the perception of quality of life.

Due to the epidemiological situation, it was reported that around the world there were different expressions of gratitude, recognition, and closeness to health personnel, circumstances that could cushion the effects derived from burnout, generating a deep sense of self-efficacy, and high satisfaction in helping others.<sup>7,18</sup> This context may have had a favorable influence on the staff's recognition of the importance of their participation during the pandemic because primary care level, on many occasions, provided the initial care of the patient with suspected COVID-19, and the staff in charge was responsible for confirming the diagnosis and subsequently classifying the patients who required second level or outpatient management.

Other authors, such as Grelier et al.,<sup>19</sup> and Caricati et al.,<sup>20</sup> postulate that health care personnel may have felt stigmatized by their profession. This situation may explain the two participants who presented a poor quality of professional life.

Furthermore, due to the epidemiological situation, teaching activities within the unit were interrupted and modified. In our unit, the clinical staff participates as assistant professor or ins-

|                      | Characteristics             | n     | Media | from  | p*     |
|----------------------|-----------------------------|-------|-------|-------|--------|
| Intrinsic Motivation | Woman                       | 163   | 83.12 | 10.48 | 0.001  |
|                      | Man                         | 83    | 77.63 | 13.34 |        |
|                      | Living in a couple          |       |       |       |        |
|                      | Yes                         | 119   | 82.59 | 11.00 | 0.09   |
|                      | No                          | 127   | 80.02 | 12.39 |        |
|                      | Level of Studies            |       |       |       |        |
|                      | Less than bachelor's degree | 170   | 80.36 | 12.28 | 0.06   |
|                      | Bachelor's degree or more   | 76    | 83.29 | 10.38 |        |
|                      | Has a comorbidity           |       |       |       |        |
|                      | Yes                         | 76    | 81.53 | 10.63 | 0.82   |
|                      | No                          | 170   | 81.15 | 12.30 |        |
|                      | Type of contract            |       |       |       |        |
|                      | Union worker                | 183   | 81.17 | 12.25 | 0.33** |
|                      | Intern                      | 48    | 80.60 | 9.54  |        |
|                      | Non-union worker            | 15    | 84.47 | 12.78 |        |
|                      | Extra-institutional work    |       |       |       |        |
| Yes                  | 40                          | 80.53 | 12.34 | 0.67  |        |
| No                   | 206                         | 81.41 | 11.70 |       |        |

\*Student's T-test for independent samples

\*\*Kruskal-Wallis Test

Statistical Significance p <0.05\*

structor professor of clinical practice for undergraduate students of nursing and medical degrees and postgraduate, for Family Medicine residents. At the international level, problems were reported, among other variables, in using information technologies, and platforms to allow students to continue with their programs.<sup>21</sup> This situation demanded effort and stress for physicians with teaching functions, which could have an impact on their perception of the quality of their professional life.

Regarding the situation of health care students, Hamaideh et al<sup>22</sup> found that the academic and non-academic demands of personnel in training can have a negative influence on their perception of their professional life. It has been reported that in courses where there is an academic program and an operational program with complementary clinical practice, the duality of performing academic and assistance activities can be a factor that, if not detected and managed in time, can cause stress, burnout, and even desertion from the program. In this study, one of the results of poor quality of professional life was reported by a physician in training.

Working in the first line of care for people with suspected or confirmed COVID-19 can have physical and mental consequences for workers.<sup>23</sup> It is therefore important to know

the current situation through screening and subsequently propose improvement strategies for personnel.<sup>24-27</sup>

Finally, it is important to point out that some of the limitations of the study were that variables such as personal pathological history of COVID-19, the presence or not of Burnout syndrome, and COVID-19 vaccines were not included.

**Conclusion**

The professional quality of life of primary care level workers during the COVID-19 pandemic was evaluated, and it was identified that there is a regular perception. However, to the best of our knowledge, there are few studies published in our country that allow us

**Table 4. Comparison of Demographic and Job Characteristics According to Professional Quality of Life**

| Characteristics             | Professional Quality of Life |                 | P*   |
|-----------------------------|------------------------------|-----------------|------|
|                             | Good                         | Moderate / Poor |      |
| Gender                      |                              |                 | 0.06 |
| Woman                       | 95                           | 68              |      |
| Man                         | 38                           | 45              |      |
| Living in a couple          |                              |                 |      |
| Yes                         | 69                           | 50              | 0.23 |
| No                          | 64                           | 63              |      |
| Level of Studies            |                              |                 |      |
| Less than bachelor's degree | 84                           | 86              | 0.03 |
| Bachelor's degree or more   | 49                           | 27              |      |
| Has a comorbidity           |                              |                 |      |
| Yes                         | 40                           | 36              | 0.09 |
| No                          | 93                           | 77              |      |
| Type of contract            |                              |                 |      |
| Union worker                | 97                           | 86              | 0.13 |
| Intern                      | 25                           | 23              | 0.15 |
| Non-union worker            | 11                           | 4               | 1.0  |
| Extra-institutional work    |                              |                 |      |
| Yes                         | 22                           | 11              | 0.90 |
| No                          | 111                          | 95              |      |

\*X<sup>2</sup>

Statistical Significance p <0.05

to place ourselves on a scale or make a comparison with other institutions.

It is feasible to carry out a periodic screening that identifies the perception of professional quality of life in health units. The result is directly related to the quality of care provided. Appropriate practices aimed at improving the quality of professional life generate benefits for institutions, health care workers, and patients.

### Authors' contribution

R O-S: conceptualization, protocol development, writing; MJ R-E: fieldwork; LA R-C protocol development, fieldwork; AC M-M: statistical analysis, writing of results; CJ C-H fieldwork, writing; S P-P: writing, revision of final paper. All authors approve the publication of this paper.

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### Conflicts of interest

The authors declare not having conflicts of interest.

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