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Original Article

Quality of Professional Life and Its Association with Emotional Well-Being among COVID-19 Physicians and Nurses

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Abstract

Background: The present study was to compare the professional quality of life (ProQOL) and its association with the emotional well-being among the physicians and nurses in contact with COVID-19 patients in Iran and France.

Materials and Methods: The study was performed on 903 nurses and physicians in contact with COVID-19 patients in Iran and France.he subjects completed their demographics online and then answered questions addressing their job stress and emotion associated with their contact with COVID-19 patients and ProQOL. Finally, the collected data were analyzed using the SPSS software (ver. 25).

Results: According to the results of the present study, the degree of contact with COVID-19 patients had a significant role in compassion satisfaction, burnout, and compassion fatigue, with the coefficient effects of 0.459, 0.688, and 0.433, respectively ($P < 0.05$). The emotional well-being had a significant role in increasing compassion satisfaction ($B = 0.505$, $P < 0.05$).

Conclusion: According to the results of the present study, factors such as contact with a COVID-19 patient, emotional well-being, gender, and marital status had a significant effect on dimensions of ProQOL in both Iran and France. Considering that the entire focus of the physicians and nurses is on the health of COVID-19 patients and they have no concentration on improving their emotional state, it seems that supporting them in terms of psychological self-care and considering its indirect impact on the quality of professional performance are of particular significance.

Keywords: COVID-19, emotions, quality of life

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Introduction

From the beginning of the epidemic until October 13, 2020, the results of the COVID-19 test have been positive for more than 37 million people worldwide, and more than 1 million deaths have been attributed to the mentioned virus. It is estimated that approximately 15% of patients with COVID-19 have serious health complications, and about 5%–10% require intensive care due to severe symptoms and the high risk of death.[1,2] Therefore, thousands of these patients require to be hospitalized due to the worsening of their disease, as a result of which many intensive care units in hospitals around the world are devoted to the treatment of patients that experience potentially life-threatening symptoms of COVID-19. Consequently, due to the lack of adequate personal protective equipment and the lack of medical supplies, the shortage of healthcare professionals, as well as the lack of beds and mechanical ventilation, the maximum pressure, and care burden are imposed on hospital healthcare professionals, especially physicians and nurses.[3,4] Research studies have indicated that healthcare professionals

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can experience a variety of psychological problems while working in stressful and high-risk scenarios such as disaster and epidemic situations[3]. This could be due to observing or experiencing the suffering and death of patients in such situations, the healthcare professionals are responsible for decisions related to rationing and using resources, which in turn make them more at risk of compassion fatigue (CF) and moral damages during epidemics.[5] In addition, healthcare professionals working under COVID-19 conditions are at risk of infection and are more concerned about unconsciously exposing themselves, their family members, and friends to this virus. Concerns about transmitting the infection can lead to their reluctance to seek help from family members or friends and may reduce their compassion and cooperation at work.[6] Therefore, it can be claimed that the current situation can affect the professional quality of life (ProQOL) and mental health of the healthcare professionals.[7-13]

In this regard, prior to the outbreak of the COVID-19 virus, many previous studies have evaluated the association between ProQOL as well as its dimensions and its related factors both inside and outside the country. The results of the mentioned array of studies have revealed that age, sex, moral sensitivity in nurses, work experience, type of workplace, workload, physical fatigue, and job satisfaction were significantly associated with ProQOL.[14-17]

In the present situation, some researchers have addressed the burnout of healthcare professionals, and some other studies have provided a framework for taking care of patients at risk of death from COVID-19 by taking into account the necessity of supporting colleagues at work and providing frequent recreation for them.[18-20]

Therefore, to put in a nutshell, along with dedicated physicians and nurses, other stakeholders, including government policymakers, technology designers, hospital administrators, and community members, should cooperate in large-scale public health events such as the COVID-19 epidemic to reduce physicians and nurses' fatigue and burnout and prevent the adverse effects of this situation on their ProQOL by managing and providing care needs in this crisis and helping members of the community to prevent the spread of this disease as far as possible. In addition, due to the sociocultural and organizational differences across the world, this study focused on Iran and France and examined the level of ProQOL and its association with emotional well-being among the physicians and nurses of COVID-19 patients in these two countries.

Materials and Methods

The present cross-sectional study was performed on 1000 physicians and nurses, including those working in hospitals allocated to COVID-19 patients in Iran and France from June to September 2020.

Inclusion criteria were work experience for at least 1 year, direct contact with a patient with COVID-19, and consent to participate in the study. The physicians and nurses were excluded from the study in case of not completely filling out the questionnaire or having <1 year of work experience. Finally, 97 physicians and nurses were excluded from the study, and the present study was conducted with a sample of 903 physicians and nurses.

After receiving the code of ethics from the Ethics Committee of Isfahan University of Medical Sciences (Code: IR.MUI.REC.1399.027), the link to the questionnaire was provided to nurses or physicians via SMS, E-mail, or social networks such as WhatsApp and Telegram. In the first paragraph of the online questionnaire, the objectives of the study were explained, and the subjects' consent was obtained. Then, the subjects first provided their demographic information, including age, gender, work experience, job category (nurse, doctor, assistant/specialist), marital status, overtime, the duration of contact with COVID-19 patients, city, hospital, and physical problems based on their self-report regarding the presence of any disease such as diabetes, orthopedic-related diseases, hypertension, and respiratory diseases. They then provided their responses to questions about job stress and emotion associated with their contact with COVID-19 patients and ProQOL in terms of fatigue, burnout, and job satisfaction dimensions. Then, they filled out the two questionnaires on ProQOL and emotional well-being.

It should be noted that the online questionnaire was designed in such a way that it was obligatory for each participant to enter their nursing or medical council code before viewing the questionnaire items. The mentioned prerequisite to a great degree prevented participants from filling out the questionnaire several times.

In addition, to prevent incomplete filling- out of the questionnaires, the questionnaires were designed so that the final registration button of the questionnaire would not be activated if one item of the questionnaire remained unanswered.

Instruments

Professional quality of life

ProQOL questionnaire was used to assess the degree of physicians' and nurses' fatigue, burnout, and job satisfaction. This questionnaire was developed by Figley in the mid-1900s to determine the extent of fatigue from compassion and job stress.[21] The initial version of this questionnaire consisted of 66 items that were reduced to 30 items. This questionnaire consists of three subscales of compassion satisfaction (10 items), burnout (10 items), and CF (10 items). The questionnaire was scored on a six-point Likert scale from 0 (never) to 5 (always).[22] The scores obtained from each subscale were within the range of 0–50, and the higher the participants' score, the higher the quality of their professional life would be. In Iran, the content validity of this questionnaire has been previously calculated, confirmed, and reported to be 87%, and its reliability has been calculated using Cronbach's alpha and confirmed to be 80%.[23]

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Emotional well-being

To assess the excitement and stress in the past few months c the contact with COVID-19 patients, a standard mental well-being questionnaire developed by Keyes and Magyar-Mo (2003) was used.[24] This questionnaire consists of 45 items that measure the three dimensions of emotional well-being (12 items), psychological well-being (18 items), and social well-being (15 items). A five-point Likert scale was used to score this questionnaire. It should be noted that in this study, only the emotional well-being dimension of this questionnaire, which consists of 12 questions, was used.

It should be taken into consideration that eonly the ""emotional well-being" " dimension of this questionnaire, which consisted of 12 items, was used in this study. The resulting scores were within the range of 12–60, and the higher the participants' score, the greater their emotional well-being would be. The dimensions of psychological and social well-being have an average internal validity of 0.4–0.7, and the total validity of both of these dimensions is 0.8 and higher.[24] In Dost study (2004), the reliability coefficient and retest reliability have been reported to be 0.86.[25] In Ghalami and Sohrabi's study, the reliability coefficient of emotional well-being was 0.88, and the reliability of the social well-being subscale was 0.59.[17]

In addition, it should be considered that the two questionnaires mentioned above were translated from Persian to French and then from French to Persian by two translators that were experts in French following the two-way translation method, and the two versions were examined by the researcher in terms of the translation compatibility. If required, necessary corrections and revisions were applied. After the final edition and preparation of the questionnaires, ten university professors confirmed the content validity of the questionnaires. In addition, the result of the Cronbach's alpha indicated the reliability value of higher than 90.

Data analysis

Finally, the collected data were analyzed by SPSS software (ver. 25) (IBM corp.released 2017.IBM SPSSstatistics for windows, version 25.0. Armonk, NY:IBM corp). Data were displayed as frequency (%) and means ± standard deviation at the level of inferential statistics; the Chi-square test was used to compare qualitative data between the two groups. An independent samples *t*-test was used to compare the mean of quantitative data between the two groups. In addition, a univariate analysis was used to compare the mean of each of the main study variables between the two groups after adjusting for age, gender, work experience, marital status, job category, duration of contact with patients with COVID-19, and subjects' underlying diseases. Moreover, linear regression analysis was used to evaluate the factors affecting ProQOL. In all analyses, a significance level of <0.05 was considered.

Results

Basic characteristics of the physicians and nurses

The present study was performed on 599 and 304 physicians and nurses from Iran and France, respectively. Out of 599 Iranian physicians and nurses, 237 subjects (39.6%) were male and 362 ones (60.4%) were female, with a mean age of 37.17 ± 9.25 years. Out of 304 French physicians and nurses, 42 subjects (13.8%) were male, and 262 ones (86.2%) were female with a mean age of 36.99 ± 9.81 years. The study population in the two countries had significant differences in terms of the frequency distribution of gender, marital status, and the duration of contact with COVID-19 patients ($P < 0.05$); however, there were no significant differences between the two groups in terms of age, work experience, job category, and underlying diseases ($P > 0.05$) [Table 1].

Evaluation of emotional well-being and professional quality of life

Evaluation of the physicians' and nurses' emotional well-being and dimensions of ProQOL revealed that the emotional well-being of Iranian physicians and nurses with a mean of 34.49 ± 3.47 was significantly lower than that of French physicians and nurses with a mean of 37.28 ± 3.96. Moreover, the Iranian physicians and nurses' compassion satisfaction and burnout with a mean of 39.25 ± 6.89 and 28.23 ± 6.47 were significantly higher than those of French physicians and nurses with a mean of 38.03 ± 6.11 and 27.12 ± 6.86, respectively ($P < 0.05$). In contrast, CF was not significantly different between physicians and nurses in the two countries ($P > 0.05$) [Table 2].

Factors affecting the professional quality of life

Finally, the evaluation of the factors affecting each dimension of ProQOL in Iran indicated that emotional well-being, the duration of contact with COVID-19 patients, and being married with the coefficient effects of 0.505, 0.459, and 1.491, respectively, had a significant role in increasing compassion satisfaction ($P < 0.05$).

In addition, women compared to men and the duration of contact with COVID-19 patients with coefficient effects of 1.813 and 0.688, respectively, had a positive role in increasing burnout ($P < 0.05$). Moreover, the duration of contact with COVID-19 patients with a coefficient effect of 0.433 significantly increased CF ($P < 0.05$). In France, emotional well-being had a positive and significant role in physicians› and nurses' burnout (0.460) and CF (0.382) ($P < 0.05$). Moreover, men as compared with men had a higher compassion satisfaction (coefficient effect: 0.933; $P < 0.05$) [Table 3].

Discussion

The results of the present study evaluating the dimensions of ProQOL generally and separately between Iran and France revealed that compassion satisfaction and CF had the highest mean, and burnout had the lowest mean among physicians

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Table 1: Descriptive statistics of the target physicians and nurses in Iran and France

Characteristics	Total (*n*=903), *n* (%)	Iran (*n*=599), *n* (%)	France (*n*=304), *n* (%)	*P*
Sex				
Male	279 (30.9)	237 (39.6)	42 (13.8)	<0.001*
Female	624 (69.1)	362 (60.4)	262 (86.2)	
Age (years)	37.10±9.43	37.17±9.25	36.99±9.81	0.788**
Work experience (years)	10.49±9.25	11.79±8.59	12.74±9.60	0.131**
Marital status				
Single	295 (32.7)	174 (29.1)	121 (39.8)	0.002*
Married	602 (66.7)	419 (69.9)	183 (60.2)	
Other	6 (0.6)	6 (1.0)	0	
Job category				
Nurse	156 (17.3)	107 (17.9)	49 (16.1)	0.108*
Doctor	333 (36.9)	231 (38.6)	102 (33.6)	
Assistant/specialist	414 (45.8)	261 (43.6)	153 (50.3)	
Duration of contact with patients with COVID-19				
In every work shift	416 (46.1)	356 (59.4)	60 (19.7)	<0.001*
1-2 patients per week	134 (14.8)	70 (11.7)	64 (21.1)	
3-4 patients per week	103 (11.4)	50 (8.3)	53 (17.4)	
1-2 patients per month	133 (14.7)	75 (12.5)	58 (19.1)	
3-4 patients per month	117 (13.0)	48 (8.0)	69 (22.7)	
Past medical history				
Non	782 (86.6)	514 (85.8)	268 (88.2)	0.195*
Diabetes	43 (4.8)	34 (5.7)	9 (3.0)	
Orthopedic-related diseases	33 (3.7)	25 (4.2)	8 (2.6)	
Hypertension	17 (1.9)	10 (1.7)	7 (2.3)	
Respiratory diseases	28 (3.1)	16 (2.7)	12 (3.9)	

*Significance level obtained from Chi-square test, **Significance level obtained from the independent samples *t*-test

Table 2: Specification and comparison of the mean emotional well-being and dimensions of professional quality of life (compassion satisfaction, burnout, and compassion fatigue) of the physicians and nurses in Iran and France

Variables	Total	Iran	France	P^a	P^b
Emotional well-being	35.43±3.87	34.49±3.47	37.28±3.96	<0.001	<0.001
Compassion satisfaction	38.84±6.66	39.25±6.89	38.03±6.11	0.009	<0.001
Burnout	27.85±6.62	28.23±6.47	27.12±6.86	0.016	0.003
CF	32.52±4.73	32.27±4.26	32.99±5.51	0.051	0.208

[a]Significance level obtained from the independent samples *t*-test, [b]Significance level obtained from univariate analysis test after adjusting for age, gender, work experience, marital status, job category, duration of contact with COVID-19 patients, and underlying diseases. CF: Compassion fatigue

and nurses. Moreover, the level of compassion satisfaction and burnout among the Iranian physicians and nurses was significantly higher than those of the French physicians and nurses. In contrast, the emotional well-being of the French physicians and nurses was much higher than that of the Iranian physicians and nurses. Although the two countries did not have a significant difference in terms of CF, the physicians and nurses of both countries had a high level of fatigue, which indicated both the concern of the physicians and nurses and the imposed pressure on them.

Many previous studies have evaluated the ProQOL level of nurses and physicians. Although there was no outbreak of COVID-19 at that time, and these studies were performed on physicians and nurses under noncritical conditions, the mentioned studies similarly revealed that nurses had experienced a moderate level of burnout and secondary traumatic stress in dealing with patients.[26,27] In addition, some other researchers have noted differences in CF, burnout, or compassion satisfaction in various sections of healthcare departments.[28,29]

In this regard, the studies conducted by Wu *et al*. showed that the frequency of burnout among the physicians and nurses on the front line of COVID-19 was lower than those working in their usual wards.[18,30] In fact, in line with the present study, the mentioned study considered the duration of contact with a COVID-19 patient to be effective in increasing burnout.

In addition, in the present study, marital status and emotional well-being had a direct and significant effect on compassion satisfaction among Iranian physicians and nurses. Moreover, gender (in favor of women) directly and significantly affected burnout among Iranian physicians and nurses.

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Table 3: Linear regression analysis in identifying the factors affecting the dimensions of professional quality of life in Iran and France

Country	Variables	Factors	β	SE	*P*
Iran	Compassion satisfaction	Emotional well-being	0.505	0.081	<0.001
		The duration of contact with COVID-19 patients	0.459	0.189	0.016
		Married status (reference single)	1.491	0.618	0.016
	Burnout	Sex (reference male)	1.813	0.551	0.001
		The duration of contact with COVID-19 patients	0.688	0.182	<0.001
	CF	The duration of contact with COVID-19 patients	0.433	0.119	<0.001
France	Compassion satisfaction	Sex	0.933	0.479	0.042
	Burnout	Emotional well-being	0.460	0.096	<0.001
	CF	Emotional well-being	0.382	0.078	<0.001

CF: Compassion fatigue, SE: Standard error

In France, emotional well-being played a positive and significant role in burnout and CF. In addition, gender affected compassion satisfaction, so the female physicians and nurses, as compared with their male counterparts, were more satisfied with compassion.

Sheppard also found that CF levels were higher in women as compared with men.[31] Alharbi *et al*. noted that this finding might be attributed to different personality structures of women as compared to men. Women are more affected by the emotional state of patients than men. Moreover, women may be more affected by patients' conditions in the process of dealing with and sympathizing with patients; as a result, they are more likely to be tired of providing care to patients.[8]

Other studies have revealed that occupational stimulants have a negative effect on nurses' ProQOL. Therefore, it seems that the emotional factors related to the job of professionals may have a major impact on their ProQOL, irrespective of the sociocultural context where the profession is practiced.[32-35] The emotional bond that may be developed during a lifetime with the patient or their families is a determining factor influencing ProQOL.[33,34] Experiencing certain situations of grief and distress in the workplace often leads to the vulnerability of professionals and the decline of their work performance.[35]

Therefore, providing a strategic framework for managing the stress imposed on physicians and nurses can be of particular importance. To this end, some studies (2020) stated that the lack of a clear set of guidelines on how to best manage healthcare units (as opposed to healthcare personnel) could be considered the most distressing aspect of dealing with COVID-19.[19,20] Current advice to front-line physicians and nurses is to ensure a balance between life and work, take care of your health, facilitate mindfulness, and benefit from other supports such as possible treatment or coping modes that can have a positive effect, either alone or together.[36]

In this study, it was tried not to merely evaluate a sample of one country's physicians and nurses and at least to include a similar sample from France in this analysis to achieve a collective conclusion in spite of the differences in organizational and social cultures, perspectives, level of resilience, etc. In addition, factors affecting the decline in work performance and ProQOL were identified in the present study, and an effective step was taken in its management and promotion as much as possible in the current situation. The mentioned points seem to be the strengths of the present study. However, the lack of precise control in collecting sample information due to the online distribution of the questionnaire and the possibility of the asymmetric sample of the study belonging to two countries can be regarded as the weaknesses of this study. To address the mentioned drawback, it was tried to assess the factors affecting ProQOL in each country separately. Moreover, the study was performed on a sample of physicians and nurses that were not at the forefront of the fight against COVID-19, which could be another limitation of this study. Hence, it is suggested that researchers conduct similar studies but on a sample of physicians and nurses at the forefront.

Conclusion

To put in a nutshell, the results of this study conducted in Iran and France revealed that factors such as the duration of contact with COVID-19 patients, emotional well-being, gender, and marital status have played a significant role in the dimensions of ProQOL. Therefore, although the physicians' and nurses' satisfaction level caused by their compassion was high in this study, various factors can contribute to a decrease in this satisfaction, an increase in burnout and fatigue due to compassion, and a decrease in their work performance considering that the whole focus of the physicians and nurses was on achieving positive results for COVID-19 patients and they had no concentration on improving their emotional condition. Hence, it seems that the support of physicians and nurses in the field of psychological self-care is of particular significance.

Acknowledgment

We would like to thank the healthcare professionals of Iran and France for participating in this study. It is hoped that the results of this study can be effective in paying more attention to the healthcare professionals as the most significant individuals in controlling this pandemic.

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Conflicts of interest

There are no conflicts of interest.

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