

Resilience and professional commitment in nurses in practice in COVID-19 units compared to other nurses

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Abstract

Introduction: During the current COVID-19 pandemic, nurses, as guardians of public health, have been fighting in the frontline of caring for the infected patients. Nurses' personal and psychological capacities, including resilience and professional commitment, which enable them to cope with difficult conditions and continue providing quality care, should be investigated thoroughly. The present study aimed to compare nurses in practice in COVID-19 units with nurses who are in practice in other hospital units in terms of resilience and professional commitment.

Material and methods: This was a descriptive-comparative study. In total, 6914 nurses (3609 nurses from COVID-19 units and 3305 nurses from general units) participated in the study. The study context was 13 hospitals, which were selected from nine cities in Fars and Khuzestan, as the southern provinces of Iran.

Results: The findings of the study showed that the professional commitment mean scores of nurses in COVID-19 units and nurses in general units were relatively high, as 45 and 55.5, respectively. Moreover, the resilience mean scores of nurses in COVID-19 units and those in general units were high, 82.5 and 93.5, respectively. Pearson's correlation coefficient showed a significant direct relationship between professional commitment and resilience in the nurses in COVID-19 units ($r = 0.74, p < 0.001$) and nurses in general units ($r = 0.57, p < 0.001$).

Conclusions: In view of the existence of a significant positive relationship between resilience and professional commitment, some measures were designed to increase nurses' resilience that can improve their professional commitment as well.

Key words: COVID-19, resilience, professional commitment, nurses, nursing.

Introduction

The COVID-19 pandemic has inflicted immense stress on healthcare systems and healthcare providers (Baskin and Bartlett 2021; Rodríguez *et al.* 2020). By being in the frontline of caring for the infected patients, nurses have faced many stressful conditions and suffered from psychological/emotional issues (Mo *et al.* 2020; Park *et al.* 2018; Mohammadi *et al.* 2021a). Studies have shown that at the early stages of the COVID-19 pandemic, feelings of vulnerability, ambiguity, and being under threat increased, which led to the development of psychological and cognitive symptoms of anxiety (Duong 2021; Platt 2020;

Mohammadi *et al.* 2020). Under such circumstances, those personal and psychological capacities that can help an individual withstand difficult conditions and avoid damage, or even enhance his/her tolerance, are of especial importance (McAllister and McKinnon 2009). Resilience is one of the main personal capabilities facilitating effective coping with stressors in hard times and increases tolerance in the face of problems (Ahern and Norris 2011; Cooper *et al.* 2020). Resilience is defined as an individual's ability either to cope with problems or to return to his/her normal life following a stressful event (Murat *et al.* 2021). This quality helps nurses to manage their workplace issues and demands, including the

emotional challenges of witnessing others' pain and suffering, as well as inter-personal problems and conflicting with the other personnel (Delgado *et al.* 2017). It is essential to help nurses in maintaining and improving their resilience to empower them in coping with stress, tension and challenges in the workplace. Resilience is also considered as a protective factor, which helps nurses to confront and adapt to stressful conditions effectively (Cooper *et al.* 2020).

During the COVID-19 pandemic, nurses have shown the extent of their commitment to their profession and patients by putting their own lives at risk in emergency departments, infection control units, special care units, and COVID-19 units (Murat *et al.* 2021). Professional commitment, which is defined as an individual's engagement in and loyalty and devotion to his/her profession (Yang *et al.* 2010), can increase job satisfaction and involvement as well as encouraging such valuable behaviors as elevated concentration on patients and better technical performance (Mitchell *et al.* 2019).

In nursing, professional commitment is an attitude that strengthens nurses' physical, mental, and emotional connection with their job and professional behaviors. Accordingly, it is measured in terms of quality of care and devotion to caring for patients. Professional commitment emphasizes the importance of providing the best care based on caregivers' professional characteristics and patients' needs (García-Moyano *et al.* 2019). Professional commitment in nurses, in association with such qualities as altruism, doing good deeds, and self-sacrifice, results in the provision of quality nursing services (Jafaragae *et al.* 2012).

Despite an extensive review of the literature, the researchers found no studies on the relationship between resilience and professional commitment in nurses who were in practice in hospital units related to COVID-19 patients. In view of the wide spread of the infection and the consequent direct involvement of nurses in caring for the infected patients, as well the significant roles of the concepts of resilience and professional commitment in nurses' practice, the present study aimed to compare the nurses in COVID-19 units with the nurses who are in practice in other general units in regard to their resilience and professional commitment.

The present study aimed to compare the nurses in practice in COVID-19 units with the nurses who are in practice in other general units in terms of resilience and professional commitment in a number of hospitals selected from nine cities located in southern Iran.

Research hypotheses and questions

1. The total resilience mean score of the nurses who were in practice in COVID-19 units was different from that of the nurses who were in practice in other units.
2. The total professional commitment mean score of the nurses who were in practice in COVID-19 units was different from that of the nurses who were in practice in other units.
3. Is there any relationship between resilience and professional commitment in the nurses who were in practice in COVID-19 units on the one hand and the nurses who were in practice in other units on the other hand?
4. Is there any relationship between resilience and professional commitment on the one hand and demographic variables on the other hand?

Material and methods

Design

The present study was a descriptive-comparative (cross-sectional) work of research in which the nurses in practice in COVID-19 units were compared with the nurses in practice in other general units in terms of resilience and professional commitment. The needed data were collected from September 2020 to February 2021.

Setting

The study context was 13 hospitals selected from nine cities located in Fars and Khuzestan, the southern provinces of Iran, which were coded as red at the time of sampling.

Participants

All the nurses who were in practice in the COVID-19 and general units of the selected hospitals were included in this study using the complete enumeration method. The inclusion criteria were as follows: being in practice as a clinical nurse, owning a smart cell phone, having a minimum of an associate degree in nursing, and willingness to participate in the study. The exclusion criteria were being infected with COVID-19 at the time of data collection or losing a family member due to COVID-19 over the past six months.

Ethical considerations

All the participants gave their written informed consent prior to their participation in the study. The present study was conducted in terms of the principles of the revised Declaration

of Helsinki, a statement of ethical principles, which directs physicians and other participants in medical research involving human subjects. The included participants were assured of anonymity and confidentiality. Moreover, the study was approved by the local Ethics Committee of Shiraz University of Medical Sciences, Shiraz, Iran (Ethics code: IR.SUMS.REC.1399.970).

Data collection

The needed data were collected using three questionnaires. The first questionnaire addressed the personnel’s demographic characteristics, including age, gender, work experience, educational level, and marital status. The nurses’ professional commitment was measured using the Nurses’ Professional Commitment Scale developed in the study by Lin *et al.* in 1986. This scale consists of 19 items, which fall into the following three domains: nursing professional compliance, the involvement of nursing professionals, and retention of nursing professionals. The total score range of the scale is from 19 to 95, and higher scores indicate greater professional commitment. The reliability and validity of this instrument were firstly assessed and then validated by its developers. The reliability of the scale equals a Cronbach’s α of 0.91 (Lin *et al.* 2007). In the present study, the content validity of the scale was re-evaluated as follows: 15 experts examined the items, and following their suggested amendments, the content validity of the instrument was validated. Moreover, the researchers used the test-retest method to assess the reliability of the scale. Thereafter, 50 qualified nurses completed the questionnaire

twice with a two-week interval. The resultant Cronbach’s alpha was satisfactory at 0.89.

To measure the resilience of the nurses, the researchers used the Connor-Davidson Resilience Scale (CD-RISC), which was developed and validated by Connor and Davidson in 2003. The factors of this questionnaire are control, spirituality, competence, emotions, and secure relationships (Connor and Davidson 2003). The CD-RISC consists of 25 items and its score ranges from 0 to 100, with higher scores indicating higher degrees of resilience (Mohammadi *et al.* 2006). A score of 0 to 33 indicates low resilience, 34 to 67 indicates average resilience, and above 68 indicates high resilience (Connor and Davidson 2003). Correspondingly, the scale has been translated and validated by Mohammadi *et al.* in Iran. The validity of the scale was verified using factor analysis and by evaluating its convergent and divergent validity. The reliability of the scale was verified by a Cronbach’s α of 0.89 (Mohammadi *et al.* 2006).

To collect the needed data, the researchers initially used Porsline software to make it possible for the questionnaires to be electronically sent and then completed. Next, after making the necessary arrangements with the hospitals, the nurses’ cell phone numbers were acquired and the questionnaires were then sent to them on social media. The subjects received an informed consent form and they were asked to complete it. Before the subjects completed the questionnaires, they were informed on a separate page that all their personal information would be kept confidential. The collected data were analyzed in SPSS v. 22. Descriptive statistics were used to examine the subjects’ demographic characteristics and scores on the questionnaires. Of note, independent *t*-test, one-way ANOVA, and Pearson’s correlation coefficient were used to investigate the relationship between the variables under study.

Results

In total, 6879 nurses participated in the study. The majority of them were female (78.3%), were in practice in COVID-19 units (52.2%) and had a bachelor’s degree (91.7%). The means and standard deviations of the participants’ ages and work experience were 33.7 ± 2.72 and 7.9 ± 7.15 years, respectively (Table 1).

The relationships between professional commitment and resilience on the one hand and the demographic variables, including gender, marital status, and unit type, on the other hand were investigated using Pearson’s and Spearman’s

Table 1. Frequency distribution of the participants’ demographic characteristics

Demographic variables	Frequency (%)	
Gender	Male	1499 (21.7)
	Female	5415 (78.3)
Education	Associate degree	364 (5)
	Bachelor’s	6343 (91.7)
	Master’s	225 (3.3)
Marital status	Single	2559 (37.1)
	Married	4331 (62.9)
Witnessed the death of COVID-19 patients	Yes	3716 (53.8)
	No	3196 (46.2)
Use of personal protective equipment	Yes	6768 (97.9)
	No	146 (2.1)

Table 2. Relationships among professional commitment, resilience, and demographic data

Variables	Age	Education	Work experience	Gender	Marital status
Professional commitment	$r = -0.044^{**}$ $p < 0.001$	$r = -0.025$ $p < 0.001$	$r = -0.128^{**}$ $p < 0.001$	$t = -13.370$ $p < 0.001$	$t = -4.375$ $p = 0.007$
Resilience	$r = -0.036^{**}$ $p = 0.002$	$r = -0.026$ $p = 0.031$	$r = -0.097^{**}$ $p < 0.001$	$t = -9.064$ $p < 0.001$	$t = -3.862$ $p = 0.04$

** Correlation is significant. $t = t$ -value for t -test, $r =$ correlation coefficient

correlation tests depending on the qualitative or quantitative nature of these variables. The results showed that the nurses' age, work experience, and educational level positively correlated with their professional commitment and resilience mean scores (Table 2).

Pearson's correlation coefficient showed a significant direct relationship between professional commitment and resilience in the nurses working in COVID-19 units ($r = 0.74$, $p < 0.001$) and the nurses who were in general units ($r = 0.57$, $p < 0.001$). The results also show a significant relationship between the participants' total scores in terms of each concept and different dimensions of the other concepts (Table 3).

The independent paired t -test was also used to determine the professional commitment and resilience mean scores of the nurses working in COVID-19 units compared to those of the nurses in general units. The results show that the professional commitment and resilience mean scores of the nurses who were in practice in COVID-19 units were lower than those of the other group ($p < 0.001$) (Table 4).

The concept of resilience obtained the lowest mean score in the domain of spirituality (7.41 ± 2.05) and the highest mean score in the domain of personal competence (29.70 ± 5.72). In terms of the concept of professional commitment, the lowest and highest mean scores

Table 3. Relationships among the different dimensions of professional commitment and resilience

Professional commitment	Dimensions of resilience	Acceptance of change	Control	Spiritual influences	Personal competence	Trust in own intuition	Total
r : correlation coefficient		0.679**	0.611**	0.626**	0.603**	0.517**	0.700
sig.		$p < 0.001$	$p < 0.001$	$p < 0.001$	$p < 0.001$	$p < 0.001$	$p < 0.001$
Resilience	Dimensions of professional commitment	Retention of nursing professionals	Nursing professionals' compliance	Involvement of nursing professionals	Total		
r : correlation coefficient		0.585	0.597	0.637	0.700		
sig.		$p < 0.001$	$p < 0.001$	$p < 0.001$	$p < 0.001$		

Table 4. Comparison between professional commitment and resilience mean scores of the nurses working in COVID-19 units and the nurses in general units

Variable	Groups		t	Mean difference	p -value
	COVID-19 Mean (SD)	General Mean (SD)			
Resilience	61.83 (19.74)	68.94 (14.75)	-13.153	-7.085	< 0.001
Professional commitment	87.87 (18.89)	93.31 (15.07)	-16.931	-5.437	< 0.001

Table 5. Levels of resilience and professional commitment in the nurses working in COVID-19 and general units

Level	Professional commitment		Resilience	
	COVID-19	General	COVID-19	General
Low	1024 (28.4)	311 (9.4)	2 (0.1)	0
Medium	959 (26.6)	1159 (35.1)	628 (17.4)	216 (6.5)
High	1625 (45)	1833 (55.5)	2979 (82.5)	3089 (93.5)
Total	3609 (100)	3303 (100)	3609 (100)	3305 (100)

belonged to the dimensions of nursing professionals' compliance (13.95 ± 4.6) and nurses' involvement (21.09 ± 6.73), respectively. The results also show that the professional commitment mean scores of the nurses working in COVID-19 units and the nurses in general units were high: 45 and 55.5, respectively. Similarly, the resilience mean scores of the nurses who were in COVID-19 units and those in general units were high: 82.5 and 93.5, respectively (Table 5).

Discussion

The results of the present study show that 82.5% of the nurses who were in COVID-19 units and 93.5% of the nurses in general units obtained high resilience mean scores. The nurses who were in practice in COVID-19 units acquired a lower resilience mean score compared to the nurses who were in practice in general units. Iran is one of the ten countries most affected by the COVID-19 pandemic. In Iran, the nurses who are in practice in COVID-19 units have already seen five big waves of this infection. Providing nursing services in special personal protective gear in complex and stressful working conditions during their long shifts has affected the resilience of nurses who are caring COVID-19 patients (Poortaghi *et al.* 2021). According to a study performed by Mohammadi *et al.* (2021a), working in COVID-19 units is more demanding than working in other hospital units and it undermines nurses' resilience. The participants included in this study stated that they suffered considerable mental tension caused by the ever-increasing number of the infected cases, death of their young colleagues without any history of underlying diseases, extension of work shifts, fear of being infected, fear of transmitting the infection to their families, and being separated from their families for long periods. The mental tension and stress to which the nurses are imposed adversely affect their resilience and the quality of care provided by them (Mohammadi *et al.* 2021b).

Similarly, Odom-Forren (2020) reported that nurses have experienced higher levels of stress during the COVID-19 crisis compared to other members of healthcare teams, which can cause adverse effects on their resilience, the quality of their performance as caregivers, patients' safety, and the quality of their professional life. Therefore, it is necessary that healthcare policy makers should take appropriate measures to improve nurses' resilience, psychological skills, and mental health, and to provide them with more

psychological support (Odom-Forren 2020). According to a study by Jackson (2018), nurses should purposefully enhance their resilience to be able to cope with their workplace issues and crises effectively and overcome their negative experiences and change them to positive ones. It is noteworthy that resilience can eliminate or modify the undesirable effects of adverse working conditions and contribute to nurses' mental health and the quality of services provided by them. On the other hand, lack of resilience in nurses can make the conditions in the workplace so difficult for them that they will consequently suffer from psychological and physical injuries. Such circumstances hinder nurses using their professional skills, thereby providing quality care (Jackson 2018). Moreover, in the above-mentioned study, the results showed a direct correlation between work experience and age on the one hand, and resilience on the other hand, which is consistent with the findings of the present study (Ang *et al.* 2018; Khanmohammadi *et al.* 2020).

In the present study, 71.6% of the nurses working in COVID-19 units and 90.6% of the nurses in general units had the abovementioned average professional commitment mean scores. The results also show a significant relationship between professional commitment and resilience. It was also found that a significant relationship existed between the nurses' total resilience mean score and their mean scores in terms of the different dimensions of professional commitment, including perception of nursing, acceptance of nursing, nursing professionals' interactions, sacrifice, and retention of nursing professionals. Similarly, the results of the study by Gerami Nejad *et al.* (2018) showed that, in special care unit nurses, there is a significant relationship between the nurses' resilience and different dimensions of their professional commitment. In addition, the nurses' work experience and age were found to be positively correlated with their resilience and professional commitment, which is in agreement with the findings of the present study (Gerami Nejad *et al.* 2018). Likewise, Yu *et al.* (2021) reported a significant positive relationship between resilience and professional commitment. The results of a study conducted in Turkey in 2020 also showed that the professional commitment mean score of nurses who were in practice in COVID-19 units was average or above that. Additionally, there is a significant relationship among their age, gender, work experience, and access to personal protective equipment on the one hand and professional commitment on the

other hand, which is consistent with the findings of the present study (Duran *et al.* 2021).

In the present study, despite the fact that the nurses were experiencing very difficult working conditions, those who were in practice in COVID-19 units acquired average or above average professional commitment mean scores. Not only did the circumstances caused by the pandemic not incline them to neglect their duties, but also they sacrificed their own safety to care for their patients and remained committed to their professional responsibilities. Mersin *et al.* (2020) in a study defined professional commitment in nursing as a strong belief in professional goals and values and also as a determination to do one's best as a professional even in the absence of any kind of supervision. Professional commitment makes individuals determined to stay in their profession despite all issues and difficulties faced by them.

In a study by Khodaveisi *et al.* (2021), nurses who cared for COVID-19 patients were found to possess high levels of ethical sensitivity. Despite the great tension involved in providing care for COVID-19 patients over a long period, the nurses were still committed to providing safe care and performed their professional duties with great ethical sensitivity.

Limitations

The present study had a descriptive design. It is suggested that future research apply qualitative approaches in order to investigate nurses' resilience and professional commitment during the COVID-19 pandemic. In this study, it is possible that the participants' family conditions, e.g. crises in their personal lives, affected their resilience. However, the researchers tried to avoid this confounder by excluding nurses who contracted COVID-19 during the time that the questionnaires were being completed. Nurses who had lost a close family member due to COVID-19 in the past six months were excluded from the study as well.

Strengths

The present study is the first attempt to investigate and compare resilience and professional commitment in nurses who are in practice in COVID-19 units and nurses in practice in general units. Other strengths of the study are the followings: the use of a large sample selected by the census method and the application of

comprehensive specialized questionnaires for data collection.

Conclusions

In view of the existence of a significant positive relationship between resilience and professional commitment, some measures designed to increase nurses' resilience can improve their professional commitment as well. In the present study, the nurses working in COVID-19 and general units were found to possess above average levels of resilience and professional commitment. However, considering the continuation of the COVID-19 pandemic in Iran and worldwide, it is essential that authorities take more effective steps to maintain and improve nurses' resilience as well as their physical and psychological health statuses and, hence, their professional commitment. Therefore, it is recommended that healthcare policymakers and nurse administrators should employ appropriate strategies, including on-the-job training programs, to improve nurses' psychological capacities and resilience skills.

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Disclosure

The authors declare no conflict of interest.

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