Investigating the professional identity and resilience in nursing students during the COVID-19 pandemic

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Abstract:

BACKGROUND: Professional identity includes the values and beliefs of a nurse that guide her thinking, action, and interaction with patients. The stressful conditions of the COVID-19 pandemic may have affected nursing students' resilience and attitudes toward their profession. Therefore, the aim of this study was to investigate the professional identity and resilience in nursing students during the COVID-19 pandemic.

MATERIALS AND METHODS: This cross-sectional descriptive study was performed in November and December 2020 with the participation of all nursing students of Babol University of Medical Sciences who spent at least one semester of internship in a hospital during the COVID-19 pandemic. Data were collected using demographic questionnaire, Connor-Davidson resilience scale, and nursing students' professional identity scale. Data analysis was performed using independent t-test, ANOVA, and correlation tests at a significance level of 0.05.

RESULTS: Nursing students in the 3rd, 5th, and 7th semesters have spent a minimum of 13 and a maximum of 151 days of internship during the pandemic period. The mean score of professional identity of nursing students was 61.86 ± 9.34 and their mean resilience score was 32.08 ± 13.54. The resilience score of 92% of students was below 50. Professional identity was significantly stronger, and resilience was considerably higher in students who were satisfied with their profession and lived with their families ($P < 0.05$). In other words, students with higher professional identity scores had higher resilience ($r = 0.39$, $P = 0.000$).

CONCLUSION: Despite a good professional identity score, the resilience of nursing students during the COVID-19 pandemic is low. Therefore, professors and the clinical education system should provide more support for students in such stressful times as the COVID-19 pandemic period.

Keywords:
COVID-19, identity, nursing students, professional, resilience

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Introduction

Professional identity includes the values and beliefs of a nurse that guide his/her thinking, action, and interaction with patients. Today, increasing public awareness along with technological advances have increased the public demand for high-quality care. Consequently, the need for active and professional nurses who are committed to their professional identity is strongly felt.[1] Apart from being an important factor in increasing self-confidence, sense of belonging to the profession and establishing interpersonal communication in students,[2] having a positive professional identity is the most important factor in creating job satisfaction[3] and the best predictor for nurses to stay in the nursing profession,[3,4] in a way that the tendency to leave the profession is higher among nurses who have insufficient professional identity development and low job satisfaction.[5]

The results of studies show that students whose first choice is nursing have a better professional identity and this professional identity is strongly associated with their staying in the profession or quitting. Stressful and anxious conditions can disrupt a person's professional identity.[4] As an unforeseen stressful situation for nursing students, COVID-19 pandemic may affect their professional identity and resilience.[6]

Resilience plays a major role in the process of forming a professional identity in medical students. By promoting resilience, the formation of a professional identity can be accelerated.[7] The study of Cardell and Bialocerkowski showed that resilience in the educational environment among speech therapy students can support professional identity.[8]

Resilience is one of the most important human abilities, which helps them to adapt to stressors effectively under pressure and in difficult situations, increases their tolerance and improves problem-solving skills.[9,10] Some researchers believe that resilience is necessary for success in nursing.[11-13] Resilient nurses provide higher quality patient care.[14] Nursing students need to manage many emotional and practical challenges associated with COVID-19 disease and create unity to prevent distress and burnout.[11]

Education plays an essential role in improving students' ability to function well and withstand challenges of the health-care environment, including the prevalence of global epidemics, and this should be considered in students' curricula.[15]

It seems that one of the effective ways to promote professional identity can be increasing nurses' resilience. In the study of Gerami Nejat *et al*., there was a positive relationship between resilience and professional commitment in nurses of special wards.[16] Awareness of the importance of resilience in nursing students can prepare them for their role in the profession.[13,17]

Despite the agreement on the importance of resilience as a positive personality trait, no study was found on the relationship between resilience and professional identity in nursing students in spite of an extensive search in a wide range of literature. On the other hand, most research on professional identity has been conducted using qualitative paradigm, and therefore, further quantitative analysis using psychological professional identity measurements is required. Accordingly, the purpose of the present study was to investigate the professional identity and resilience in nursing students during the COVID-19 pandemic.

Materials and Methods

Study design and setting
This cross-sectional descriptive study was conducted for 2 months in November and December 2020 with the participation of 200 undergraduate nursing students of Babol University of Medical Sciences.

Study participants and sampling
Since the study population was limited and available, total population sampling was applied. Inclusion criteria included: 1 – All nursing students who had experienced at least an internship in one of the wards of the hospitals (3rd, 5th, and 7th semester students (affiliated to Babol University of Medical Sciences during the outbreak of COVID-19. 2 – Conscious consent to participate in the study. Exclusion criteria were history of psychiatric illnesses (student's self-declaration), history of taking psychiatric drugs, history of substance abuse including psychotropic drugs (student self-declaration), and reluctance to participate in the study.

After coordinating with the officials of the School of Nursing and Midwifery, list of nursing students was received and they were contacted through cyberspace (email or WhatsApp) or in person at their internship locations. Then, the purpose of the study was explained to them, an informed consent was received and questionnaires were given to them.

Data collection tool and technique
To collect data, the Connor-Davidson Resilience Scale (CD-RISC), the Professional Identity Scale for Nursing Students (PISNS), and a demographic characteristics questionnaire including items about age, sex, marital status, place of residence, overall student satisfaction with the profession, semester, work experience in the profession, number of internship days experienced during the COVID-19 pandemic) were used.

The Connor-Davidson Questionnaire (CD-RISC) is a 25-item instrument that measures the resilience structure using a five-point Likert scale. It has 5 factors including personal competence, trust in one's instincts, positive acceptance of change and safe relationships, control and spiritual influences. There are 8 questions for evaluating personal competence, seven for trust in individual instincts, five for positive acceptance of change and safe relationships, three for control, and two for spiritual influences. The minimum resilience score on this scale is zero and the maximum score is 100. A higher score indicates a higher resilience. Psychometric properties of the Persian version of the CD-RISC have been assessed and confirmed in patient (n = 275) and normal (n = 1123) samples by several studies conducted between 2005 and 2010. In these studies, Cronbach's alpha coefficients

for questions related to each of the resilience subscales ranged from 0.72 to 0.91 and for the overall score of the scale from 0.81 to 0.93.[18]

The PISNS is a questionnaire used by Hao *et al*. to measure the professional identity of nursing students and has 17 questions in 5 sections: Social modeling (2 questions), job choice independence (2 questions), social comparison and self-reflection (3 questions), benefiting from the risk of staying or leaving the job (4 questions), and mental image of the profession (6 Question). It uses a 5-point Likert scale (from 1 strongly disagree to 5 strongly agree) and the scores obtained range between 17 and 85. A higher score reflects a stronger professional identity. The reliability of this tool in the study of Hao *et al*. was 0.83.[19] The collected data were entered into SPSS version 24.0 (IBM Corp., Armonk, NY, USA). and analyzed using descriptive statistics for demographic characteristics of students and independent *t*-test, ANOVA, and correlation test for analytical statistics. A $P = 0.05$ was considered statistically significant.

Ethical consideration

To avoid interfering with their clinical education and also to prevent the disturbing effect of the researcher's presence when filling out the questionnaire, the students were asked to complete the questionnaires at an appropriate time and then hand them in later with prior coordination. This project was approved by the ethics committee of Babol University of Medical Sciences under the code IR.MUBABOL.REC.1399.375 in 2020.

Results

A number of 200 nursing students participated in this study including 133 (66.5%) females and 67 (33.5%) males with a mean age of 22.04 ± 2.23. The minimum number of days of internship experienced during the pandemic was 13 days and the maximum was 151 days. <5% of the participants were practical nurses, 56% lived in dormitories, 39.5% lived with their families, 71% were satisfied with their profession, and 94.5% were single.

The mean score of professional identity of nursing students was 61.86 ± 9.34, their mean resilience score was 32.08 ± 13.54 and 92% of them had a resilience score below 50. Students who were satisfied with their profession had a significantly stronger professional identity compared to the ones who were not satisfied with their profession ($P = 0.000$). Moreover, the professional identity score of students living with their families was significantly higher than that of students living in dormitories ($P = 0.048$) [Table 1]. Regarding resilience, it was significantly higher in students who were satisfied with their profession than in students who were dissatisfied with their profession ($P = 0.001$).

Furthermore, it was significantly higher in students who were living with their families compared to those who were living in dormitories ($P = 0.007$) [Table 2]. According to the Pearson correlation test, professional identity was significantly associated with resilience in nursing students ($r = 0.39$, $P = 0.000$) in a way that students with higher professional identity scores had higher resilience [Table 3].

Discussion

In this study, the mean score of professional identity among nursing students was 61.86 ± 9.34, which is a relatively high score. In the study of Haghighat *et al*. in Iran, the mean score of professional identity in nursing students was reported to be 55.61 ± 12.75.[20] In a study by Bing *et al*. in China, the mean professional identity score of nursing students during the COVID-19 pandemic was 61.30 ± 10.07,[21] which was very close to the present study. In the study of Sun *et al*., the professional identity score of nursing students was 57.63 ± 9.63.[22] These studies showed that students' professional identity scores did not change much during the COVID-19 pandemic, which suggests that changes in people's attitudes and perceptions toward the profession do not happen easily.

According to the results of the present study, the professional identity of nursing students who were satisfied with their profession and lived with their families was significantly stronger. The study of Mao *et al*. showed that students who were directly supported by their families had a stronger professional identity.[23] Moreover, the study of Kabeel and Eisa showed that professional identity and job satisfaction are directly related to each other.[24] In the present study, there was no statistically significant difference in professional identity score based on gender and semester. Students with stronger professional identity experienced less role stress.[22] The main part of nurses' professional identity is formed during their student years.[25]

The mean resilience score of nursing students during COVID-19 was 32.08 ± 13.54. In the study of Chamberlain *et al*., the resilience score of nursing students was 37 ± 7,[26] while in the study of Chow *et al*., the resilience score of nursing students was 23.8 ± 5.9.[27] In the study of Afshari *et al*., the nurses' resilience score was 61.18 ± 14.8, which is significantly higher than the present study.[28] More than 92% of students had resilience scores below 50, indicating the significant impact of the COVID-19 pandemic crisis on students' resilience. Social and academic support of nursing students can increase their resilience and thus improve their learning in the clinical environment. Therefore, it is necessary to promote nursing students' resilience.[17]

Table 1: Professional identity of nursing students based on demographic variables

Scale dimensions	Individual characteristics								
	Gender		Semester			Satisfaction with the profession		Place of residence	
	Male (*n*=67)	Female (*n*=133)	3 (*n*=67)	5 (*n*=67)	7 (*n*=66)	No (*n*=58)	Yes (*n*=142)	Family (*n*=79)	Dormitory (*n*=112)
Social comparison	7.67±1.54	7.20±1.73	7.32±1.42	7.44±1.43	7.01±2.04	6.37±1.51	7.62±1.58	7.54±1.43	7.07±1.75
P	0.45		0.37			0.000		0.051	
Job choice independence	8.01±1.33	7.48±1.60	7.87±1.18	7.89±1.28	7.22±1.95	6.81±1.61	8.00±1.36	8.03±1.34	7.39±1.65
P	0.020		029			0.00		0.005	
Risk of staying or leaving the job	14.50±2.23	14.41±2.95	14.31±2.66	14.52±2.62	14.50±2.93	12.74±3.01	15.14±2.27	14.65±2.35	14.41±2.86
P	0.81		0.24			0.000		0.54	
Social modeling	7.67±1.54	7.33±2.05	7.22±1.73	7.88±1.50	7.24±2.32	6.13±2.36	7.98±1.35	7.72±1.67	7.18±2.06
P	0.24		0.28			0.000		0.059	
Total score	62.62±7.73	61.47±10.06	61.86±7.80	63.32±7.76	60.36±11.83	54.65±9.75	64.80±7.40	63.50±7.54	60.77±10.23
P	0.41		0.18			0.001		0.048	

Table 2: Resilience of nursing students based on demographic variables

Scale dimensions	Individual characteristics								
	Gender		Semester			Satisfaction with the profession		Place of residence	
	Male (*n*=67)	Female (*n*=133)	3 (*n*=67)	5 (*n*=67)	7 (*n*=66)	No (*n*=58)	Yes (*n*=142)	Family (*n*=79)	Female (*n*=112)
Spiritual	1.35±0.16	2.14±0.18	2.19±1.86	2.07±1.62	2.53±2.28	2.22±1.86	2.28±1.98	2.43±1.76	2.07±1.98
P	0.007		0.37			0.85		0.20	
Control	3.94±1.99	3.24±2.52	3.29±2.12	3.85±2.04	3.28±2.87	3.43±1.96	3.50±2.53	4.34±2.55	2.81±1.96
P	0.052		0.29			0.85		0.00	
Positive acceptance of change	6.22±3.08	6.52±3.39	5.95±2.98	6.91±2.85	6.40±3.90	7.41±2.95	6.02±3.34	7.54±3.10	5.53±3.01
P	0.054		0.24			0.006		0.00	
Trust in individual instincts	8.70±3.81	9.21±4.86	9.32±3.88	9.46±4.11	8.31±5.43	10.72±3.45	8.35±4.74	9.16±4.24	8.84±4.33
P	0.45		0.28			0.001		0.61	
Individual competence	11.04±4.9	10.78±5.24	11.40±5.20	11.07±4.96	10.12±5.18	13.43±3.86	9.82±5.21	11.25±4.27	10.47±5.38
P	0.73		0.32			0.000		0.28	
Total score	31.65±12.27	32.29±14.17	32.17±12.62	33.37±13.02	30.96±14.94	27.33±10.39	34.20±1413	10.90±34.73	13.60±29.74
P	0.75		0.51			0.001		0.007	

Table 3: The relationship between the dimensions of professional identity and resilience in nursing students

Dimensions of resilience	Dimensions of professional identity			
	Social comparison	Job choice independence	Risk of staying or leaving the job	Social modeling
Trust in individual instincts (*r*, *P*)	−0.029, 0.001*	−0.37, 0.001*	−0.35, 0.001*	−0.32, 0.001*
Individual competence (*r*, *P*)	−0.28, 0.001*	−0.30, 0.001*	−0.39, 0.001*	−0.45, 0.001*
Positive acceptance of change (*r*, *P*)	−0.10, 0.15	−0.20, 0.004*	−0.35, 0.001*	−0.26, 0.001*
Control (*r*, *P*)	−0.01, 0.79	−0.04, 0.49	−0.28, 0.001*	−0.13, 0.06
Spiritual (*r*, *P*)	−0.17, 0.001*	−0.18, 0.001*	−0.23, 0.001*	−0.21, 0.001*

*P is significant at the 0.05 level (two-tailed)

Unfortunately, no studies have been found on the resilience of nursing students during the COVID-19 pandemic. However, given that more than 92% of nursing students had resilience scores below 50, it seems that low resilience scores in this period of time are largely due to pressures and stresses caused by the fear of transmitting the virus to students or their families.

Studies have shown that in a pandemic situation, students experience a lot of stress and anxiety, in a way that 45% of them have experienced moderate anxiety and 13.5% of them have experienced severe anxiety, and the level of anxiety has been lower only in people with higher resilience. Pandemic time not only causes mental problems for students, which might lead them to

use alcohol and sedatives, but also reduces their learning ability in internships.[29] Anxiety and fear are one of the most important issues that clinical educators should pay special attention to when supporting students.[30]

There was no statistically significant difference between the resilience of nursing students in both sexes and based on the semester. In the study of Chow *et al.* too, the difference in resilience score based on gender and semester was not statistically significant.[27] On the other hand, resilience was significantly higher in students who were satisfied with their profession or lived with their families. However, in these cases, too, the overall resilience score was low. Various studies have shown an association between resilience and job satisfaction.[31-33] The study of Thomas and Revell students who received more support from their family was more resilient.[17]

In this study, there was a direct relationship between resilience and professional identity. Students with stronger professional identity also had higher resilience. Moreover, students with higher professional identity scores were more likely to be accepted and tolerated because of their more positive attitude toward the profession. Lim and Lee's study, too, showed that there was a significant direct relationship between professional identity and resilience in operating room nurses.[34] The main strength of this study is that it is unprecedented in terms of examining the relationship between resilience and professional identity in nursing students. Since the COVID-19 pandemic crisis has a direct impact on health-care providers, especially nursing students who do not have sufficient experience in coping with stress, results of such a study can help view the concept of resilience in nursing students from new perspectives.

Limitation and recommendation
Since few studies have been conducted on the relationship between resilience and professional identity, the greatest limitation of the present study was that it was not possible to extensively compare its results with the results of other studies. Therefore, it is recommended that more studies should be carried on the relationship between resilience and professional identity, especially in nursing students.

Conclusion

Despite the acceptable professional identity scores, the overall resilience score of nursing students was low. Based on the results of this study, it is recommended that students' families support their children more, especially those who live in dormitories, to promote resilience and professional identity. It is also suggested that professors, trainers, and clinical education managers provide more support, advice, and guidance for students, especially in

more stressful situations like the time of COVID-19 crisis, and try to identify the causes of students' dissatisfaction with the nursing profession in such conditions, so that they can improve their resilience and professional identity.

Conflicts of interest
There are no conflicts of interest.

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