Factors related to the nurses' intention to stay in the Iranian context: A multicenter cross-sectional study

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Abstract

Background: Retaining skilled nurses is paramount in providing quality nursing care for patients and thus improving their satisfaction. This study aimed to determine the intention to stay (ITS) in the profession of nurses and its related factors.

Methods: This multicenter cross-sectional study was conducted on 263 nurses working in teaching hospitals affiliated with Zanjan University of Medical Sciences, Iran, from September 2020 to February 2021. Participants were selected by simple randomization. A researcher-made ITS questionnaire was used to collect data, which were then analyzed using descriptive statistics, independent t test, analysis of variance (ANOVA), and Pearson correlation via SPSS version 16.

Results: The findings revealed that 109 participants (41.45%) of the nurses intended to stay in their profession. The total mean ± SD score of ITS for the nursing profession was 60.44±12.39 out of 100. From the participants' perspective, 5 factors of high responsibility and commitment (86.01±13.71), professional competence (77.95±13.66), feeling useful in nursing (77.79±18.23), the importance of being employed for me (74.83±20.01), and the possibility of learning skills and acquiring new information by continuing nursing (74.30±18.22) had the highest average score. There was a statistically significant relationship between ITS and the demographic variables of education level, job position, marital status, working shift, age, and the number of children of participants (P < 0.05).

Conclusion: The frequency of nurses with ITS in the profession is a cause of concern, sounding the alarm for the Iranian nursing system. The findings of this study could be useful for health care policymakers to increase nurses' intention to stay in the profession and, as a result, improve retention rates.

Highlights

What is current knowledge?

In the existing literature, different results of nurses' intention to stay in their profession and related factors have been reported in different contexts. In this study, the factors related to the intention to stay in the profession were prioritized from the perspective of nurses.

What is new here?

This study shows that less than half of nurses in teaching hospitals affiliated with Zanjan University of Medical Sciences have the intention to stay in their profession.

Introduction

Recently, the shortage of nurses around the world has become a problem (1), and providing a competent nursing workforce is necessary to ensure a high level of professionalism and ultimately improve the health of patients by providing quality nursing care (2). This is because nurses play an important organizational role (3). Two terms associated with the shortage of nurses are the intention to leave and the intention to stay (ITS). Intention to stay is the intention of employees to stay in their employment relationship with their current employer for a long time (4). Also, ITS in nursing is defined as the nurse's perceived likelihood of staying within the nursing profession or leaving to find non-nursing work (5). Previous studies have primarily focused on measuring intention to leave as a strategy to increase retention rates. Unlike the intention to leave the job, ITS as a positive behavior is an essential prerequisite for predicting the retention of nurses in hospitals (6). However, the understanding of factors related to ITS among nurses is limited due to a lack of research and the weakness of existing explanatory models (2).

Studies have shown that nurses' ITS varies in different societies. A study in Iran showed that nurses' ITS was 36% (7). In the study by Engeda et al, in Ethiopia, the nurses' ITS was 39.8% (8). Factors related to ITS in the nursing profession in different communities have varying elements. In European countries, respect and trust of colleagues in the knowledge and professional independence of nursing (9), the lack of conflict between work and life, attachment to work, and the importance of employment (10) have been reported as the most important factors. In East Asian countries, high salaries for nurses, job development opportunities (11), improvement and promotion of safety and stability conditions in the workplace (12), female gender, marriage, high work experience, high work commitment, ease of transportation, positive working atmosphere, teamwork, welfare facilities, and high income (2) have been cited to be correlated with their ITS. In the Middle East, the paternal leadership style (13) and job satisfaction (14-16) are often cited as such. Chen et al (16) reported the role of social support as the deciding factor in the USA.

Various studies have shown contraventions in factors related to ITS in the profession. The study by Jiang et al (17) and Eltaybani et al (2) reported a positive and significant relationship between increasing age and ITS in the profession. However, a study conducted in Iran by Borhani et al (18) did not report a positive relationship between increasing age and ITS in the profession. Another contravention in the study results is the relationship between the number of children and ITS in the profession. While the results of the study of Ortega et al (19), unlike the study of 10 Have et al (20), showed that the number of children had no significant relationship to increasing ITS in the profession.

In addition, it should be noted that the COVID-19 pandemic is one of the factors that has significantly impacted the work status of nurses (21). It has been shown that increased workload, exposure to death, personal preferences and fears, harsh employment conditions, and biological damage are reasons for the highest stress levels among nurses during COVID-19 outbreaks. These factors have reduced job satisfaction and increased nurses' intention to leave the profession (22).

A common feature of all previous studies is that they have focused on only one or a few factors and, as a result, have not conducted a comprehensive investigation of various aspects (such as demographic, occupational, motivational, managerial, and familial aspects). Accordingly, the authors of this

study aimed to conduct a more comprehensive examination of factors related to ITS among Iranian nurses and compare different factors.

Methods

This study reports part of a larger research project. This multicenter cross-sectional study was conducted from September 2020 to February 2021.

The study population was nurses working in 3 teaching hospitals affiliated with Zanjan University of Medical Sciences, Iran. At the time of the study, 789 people were employed in these hospitals. The Cochran formula was used to determine the sample size, with N = 789, d = 0.05, Z = 1.96, p = q = 0.5, and a test power of 0.8. The required sample size with these parameters was hence calculated at 258 people. However, 285 questionnaires were distributed to address nurses' possible non-completion of questionnaires.

Inclusion criteria were participants who had at least a diploma in nursing or paramedics, were employed full-time in the nursing profession, and expressed willingness to participate in the study were selected to take part. Eligible nurses were included in the study by a simple randomization method using a table of random numbers. First, the exact number and names of the statistical population were determined, and each was given a 3-digit code. Then, sampling started from a random part of the table. This work continued until the sample size was complete. Of the 285 distributed questionnaires, 22 were not included in the analysis process for various reasons, and 263 were analyzed.

To gather data, demographic and researcher-made ITS questionnaires were employed to evaluate factors related to nurses' ITS in their profession. The demographic questionnaire included age, gender, marital status, number of children, education, job position, working shift, income level, and having a second job.

The researcher-made ITS questionnaire consisted of 21 items scored on a 5-point Likert scale to assess the factors related to nurses' ITS in the profession. Regarding the scoring of each item, a score of 1 to 5 was assigned to each item, corresponding to very low, low, medium, high, and very high, respectively. The mean score in each item was calculated from 5 and then based on 100. At the end of this questionnaire, a closed-ended question (yes/no) regarding the ITS in the nursing profession was included. A higher score means that nurses are more ITS in the job.

To develop the questionnaire, we did a comprehensive review of literature in Google Scholar, PubMed, Science Direct, CINAHL, and other databases belonging to the period between 2012 and 2020 were queried. As such, factors described to be involved in the ITS of nurses in the nursing community were extracted. In the next step, the quantitative content validity method was used to determine the content validity questionnaire's content validity index (CVI) and the content validity ratio (CVR) of the questionnaire were hence measured. For this purpose, questionnaires were provided to 40 experts (including nursing professors), and the aforementioned indicators were determined and performed. S-CVI = 0.85 and S-CVR = 0.69 were obtained for the instrument. The content validity index for each item in the questionnaire ranged from 0.71 to 1, and CVR ranged from 0.63 to 1. Using Cronbach α, the correlation between all items and the total score of the ITS questionnaire in nursing its internal consistency was calculated and confirmed (α = 0.84).

Given that the concept investigated in this study was objective and directly measurable and that the researchers aimed to identify factors related to intention to leave the profession rather than reducing and consolidating them, factor analysis was not used to measure its components (23).

To complete the questionnaires, the first author visited the study setting during morning, evening, and night shifts. After explaining the study's objectives and emphasizing their discretion in participating, the questionnaires were administered in person. A small gift was offered to encourage the participants' cooperation and to ensure accurate responses to the questionnaire items. The questionnaires were completed in the presence of the researcher, and the necessary explanations were offered to the participants regarding the items and in cases of ambiguities. Most of the questions the study participants raised from the questionnaire pertained to items addressing financial need and the importance of being employed. In Iran, it is common for men to work outside the home while women work as housewives, resulting in women's significant dependence on men. However, some women in certain families strive to break free from this dependence. This is why their financial independence and economic independence are perceived as highly important. Regarding men's financial needs, it is also important to note that nurses with lower work experience, lower income levels, and consequently higher financial needs may think of having a second job or leaving the job and starting another career with more income. Finally, the questionnaires distributed by the researcher were evaluated for completeness, and the flawless questionnaires entered the final stage (the statistical analysis).

For data analyses, descriptive statistics were employed to represent the mean, SD, frequency, and percentage. Moreover, inferential statistics were used to examine the compliance of the data with the normal distribution based on the Kolmogorov-Smirnov test. An independent t test was also used to evaluate the relationship between gender, marital status, and having a second job with ITS. Analysis of variance (ANOVA) was used to examine the relationship between multivariate variables, such as education, job position, working shift, income

level, and the number of children with ITS. Furthermore, the Pearson correlation test was used to examine the relationship between age and total ITS score. The significance level in the present study was considered less than 0.05. All statistical analyzes were performed using SPSS version 16 (SPSS Inc, Chicago, IL, USA).

Results

The demographic characteristics of the participants are presented in Table 1. The results showed that only 41.45% of the participants expressed their ITS in nursing. The mean ± SD of the total ITS score in the profession was 55.59 ± 12.99 out of 100. Respectively, the items of sense of responsibility and commitment (86.01 ± 13.71), professional competence (77.95 ± 13.66), sense of usefulness in nursing (77.79 ± 18.23), the importance of employment (74.83 ± 20.01), and the possibility of learning skills and acquiring new information by continuing the nursing profession (74.30 ± 18.22) attained higher mean scores in ITS for the nursing profession (Table 2).

The findings on the relationship between demographic and occupational characteristics with the total score of the ITS questionnaire in the profession indicated that there was a statistically significant relationship between the variables of education level, job position, marital status, working shift, age, and the number of children with ITS in the nursing profession ($P < 0.05$). At the same time, there was no statistically significant relationship between the variables of gender, income level, and second job with the total score of the ITS questionnaire ($P < 0.05$; Table 3).

Table 1. Description of study participants based on the demographic characteristics

Qualitative Variables		Frequency	Percentage
Gender	Female	230	87.5
	Male	33	12.5
Education	Diploma	20	7.6
	Bachelor's degree	221	84
	Master's degree	22	8.4
Job position	Practical nurse	221	80.6
	Head nurse	21	8
	Supervisor	10	3.8
	Assistant nurse	20	7.6
Marital status	Single	63	24
	Married	200	76
Working shifts	Fixed morning	39	14.8
	Fixed evening	3	1.1
	Fixed night	13	4.9
	Regular rotation	39	14.8
	Irregular rotation	169	64.3
Second job (another job at the same time as the nursing profession)	Yes	22	8.4
	No	241	91.6
Income level	Low	121	46
	Moderate	132	50.2
	High	10	3.8
Number of children	0	113	43
	1	69	26.2
	2	72	27.4
	3	9	3.4
Intention to stay in the nursing profession	Yes	109	41.45
	No	154	58.55
Quantitative Variables		Mean	SD
Age (year)	Female	35.95	7.444
	Male	36.24	9.919
	Total	35.99	7.773

Discussion

The study's findings showed that the ITS in the nursing profession was moderate. From the participants' perspective, 5 factors of high responsibility and commitment, professional competence, feeling useful in nursing, the possibility of learning skills and acquiring new information by continuing nursing, and interest in the nursing profession were more important for ITS in the nursing profession. Education level, job position, marital status, working shift, age, and the number of children of participants were identified as factors related to the ITS in the profession.

We showed that less than half of the nurses want to stay in their profession. This finding was almost close to the results of a study by Engeda et al, with a ratio of 39.8% (8). However, the rate of ITS has been reported in the results of studies by Soudagar et al, with a ratio of 50.4% (24), Bell et al, with a ratio of 39.2% (5), and Ujvarine et al, with a ratio of 52% (25). This difference in ITS in the profession in different societies may be related to the prevailing cultural, social, and economic contexts.

The mean scores of the questionnaire items in the present study showed that having a sense of responsibility and high commitment was the most critical item on the ITS in nursing, followed by professional competence, feeling useful in nursing, the importance of employment, ability to learn skills and acquire new information by continuing to work in nursing, interest in the profession, financial need, and high personal motivation to work in the nursing profession.

Table 2. The frequency distribution, percentage, mean, and SD of answering the questions of the factors of intention to stay

Factor related to ITS	Very high N (%)	High N (%)	Moderate N (%)	Low N (%)	Very low N (%)	Mean ± SD (Out of 5)	Mean ± SD (Out of 100)
Interested in the nursing profession	51 (19.40)	88 (33.50)	95 (36.10)	21 (8.00)	8 (3.00)	3.58±0.98	71.63±19.76
Self-motivation	44 (16.70)	92 (35.00)	91 (34.60)	30 (11.40)	6 (2.30)	3.52±0.97	70.49±19.52
Job satisfaction	29 (11.00)	41 (15.60)	98 (37.30)	71 (27.00)	24 (9.10)	2.92±1.10	58.48±22.18
Feeling of usefulness	73 (27.80)	109 (41.40)	62 (23.60)	17 (6.50)	2 (0.80)	3.89±0.91	77.79±18.23
Having a high feeling of responsibility and commitment	110 (41.80)	124 (47.10)	28 (10.60)	0	1 (0.40)	4.30±0.68	86.01±13.71
Professional competence (knowledge and skills)	46 (17.50)	146 (55.50)	70 (26.60)	0	1 (0.40)	3.90±0.68	77.95±13.66
The possibility of learning skills and acquiring new information by continuing the nursing profession	50 (19.00)	115 (43.70)	76 (28.90)	17 (6.50)	5 (1.90)	3.71±0.91	74.30±18.22
Variety in nursing work	31 (11.80)	76 (28.90)	80 (30.40)	56 (21.60)	20 (7.60)	3.16±1.12	63.19±22.42
Ability to do teamwork in nursing	31 (11.80)	81 (30.80)	97 (36.90)	48 (18.30)	6 (2.30)	3.32±0.97	66.31±19.56
Appropriate working atmosphere	27 (10.30)	64 (24.30)	118 (44.90)	46 (17.50)	8 (3.00)	3.21±0.95	64.26±19.06
The existence of appropriate management processes in the organization	10 (3.80)	13 (4.90)	60 (22.80)	112 (42.60)	68 (25.90)	2.18±0.99	43.65±19.97
Appropriate feedback (verbal and non-verbal)	17 (6.50)	42 (16.00)	115 (43.70)	74 (28.10)	15 (5.70)	2.89±0.95	57.87±19.18
Family, friends' encouragement	24 (9.10)	74 (28.10)	102 (38.80)	47 (17.90)	16 (6.10)	3.16±1.02	63.27±20.45
Family, friends' insistence	11 (4.20)	39 (14.80)	104 (39.50)	78 (29.70)	31 (11.80)	2.70±0.99	53.99±19.97
High work experience	28 (10.60)	78 (28.90)	82 (31.20)	65 (24.70)	12 (4.60)	3.16±1.05	63.27±21.18
Employment status and job guarantee	46 (17.50)	85 (32.30)	40 (15.20)	24 (9.10)	68 (25.90)	3.06±1.46	61.29±29.34
Having a managerial position	24 (9.10)	52 (19.80)	62 (28.60)	37 (14.10)	88 (30.59)	2.57±1.36	51.41±27.30
Financial need	58 (22.10)	69 (26.20)	104 (39.50)	22 (8.40)	10 (3.80)	3.54±1.04	70.87±20.86
The importance of being employed for me	66 (25.10)	95 (36.10)	78 (29.70)	16 (6.10)	8 (3.00)	3.74±1.00	74.83±20.01
There was no other job to choose	30 (11.40)	72 (27.40)	62 (24.00)	48 (18.30)	50 (19.00)	2.94±1.29	58.78±25.89
Possibility of employment at the international level	15 (5.70)	55 (20.90)	56 (21.30)	72 (27.40)	65 (24.70)	2.56±1.22	51.10±24.55
Total ITS score							55.99±12.99

Table 3. Comparison of the Mean and SD of intention to stay score based on the demographic characteristics of the participants in the study

Qualitative Variables		Total score of ITS			
		Mean	SD	Statistical test	P value.
Gender	Female	55.61	13.15		t=-1.27
	Male	58.69	11.60		P=0.203
Marital status	Single	52.83	12.58		t=2.23
	Married	56.99	12.98	Independent t test	P=0.026
Second job (another job at the same time as the nursing profession)	Yes	66.27	15.49		t=0.098
	No	55.99	12.79		P=0.922
Intention to stay in the nursing profession	Yes	60.44	12.39		t=0.06
	No	52.85	12.51		P=0.797
Education	Diploma	61.72	18.67		F=3.92
	Bachelor's degree	55.30	12.28		P=0.021
	Master's degree	60.44	12.15		
Job position	Practical nurse	54.16	11.73		F=8.10
	Head nurse	65.24	12.93		P=0.000
	Supervisor	63.92	12.42		
	Assistant nurse	61.72	18.67		
Working shifts	Fixed morning	61.90	12.18		F=4.13
	Fixed evening	58.73	05.87		P=0.003
	Fixed night	62.08	19.31	ANOVA	
	Regular rotation	57.02	11.52		
	Irregular rotation	53.88	12.51		
Income level	Low	54.17	13.57		F=2.23
	Moderate	57.53	12.28		P=0.109
	High	57.85	13.23		
Number of children	0	52.62	11.15		F=4.79
	1	57.79	14.17		P=0.003
	2	59.11	13.22		
	3	59.65	15.22		
Quantitative Variables		Pearson correlation		P value	
Age (year)		r=0.281		P=0.000	

Abbreviation: ANOVA, analysis of variance.

The findings of Eltaybani et al (2018), who conducted a similar study in Japan, suggested high job commitment, welfare facilities, and high income as the most significant factors in nurses to stay in their profession (2).

The results of Ahlstedt et al (2019) and Eltaybani et al (2018) revealed that nurses feel progress and usefulness by being able to solve daily work challenges and daily theoretical and practical learning (2, 9), as well as doing independent care (9); these factors contribute to increased ITS in the nursing profession. In this regard, the results of the present study are in line with those of the studies mentioned above. The present study's results provide evidence of a positive and significant relationship between the parameters of interest in the profession, motivation, job satisfaction, and ITS, which is in line with the findings of Simon et al in 2018 (26).

In general, nurses tend to feel more helpful when they provide high-quality care. Consistent with the results of the study by Eltaybani et al (2), the study's results also showed a positive and significant relationship between feeling useful and providing quality care and ITS.

Our study showed that teamwork, a positive work atmosphere, socially enforcing cooperation and empathy with colleagues, encouragement, insistence

of friends and family, and receiving constructive verbal and non-verbal feedback from the patients and families could improve ITS. These findings align with Eltaybani et al (2) and Jiang et al (17). The current study revealed that, overall, nurses of higher ages achieved higher mean scores on the ITS questionnaire, which is consistent with the results of Jiang et al (17) and Eltaybani et al (2). However, the results of Alnaeem et al (27) showed that there was a significant relationship between age and intention to leave the profession, a finding which contradicts the current study, further providing evidence for the context-based factors related to ITS. The difference in our results may be related to the population and context under investigation (10 European countries).

Our study showed a relationship between level of education and ITS in the profession. Unlike the present study, Jiang et al (17) reported that no positive and significant association was observed between level of education and ITS in the profession. However, this effect can be explained by the fact that nurses with higher levels of education can have better job opportunities, as Jiang et al (17), in their study, revealed that nurses with suitable job positions were more inclined to stay in their profession.

The results also indicated that married people were more inclined to stay in the profession, which is in line with Jiang et al (17) and Eltaybani et al (2).

Moreover, the results indicated that nurses who had fixed work shifts were likelier to stay in the profession. Previous studies have established a relationship between fixed shifts and job satisfaction among nurses (28). Therefore, this relationship can be attributed to better job positions and high job satisfaction.

The findings further indicated a relationship between number of children and ITS, which is consistent with the results of previous studies (20). However, many studies have suggested a negative correlation between having children and burnout (19), which in turn can lead to an increased intention to leave the profession (29). The discrepancy between these findings can be attributed to the high unemployment rate and difficulty in finding work in our research community, as well as the fact that having children is often associated with a significant increase in living costs. As a result, currently employed nurses, particularly those who are married and have children, strive to maintain their profession and are more inclined to remain in their current job.

The results of the present study showed that the mean score of ITS was higher in men than in women; however, this relationship was not significant. On the other hand, a study by Jiang et al reported that male nurses were more likely than female nurses to leave the profession (17). Eltaybani et al (2018) also showed that female nurses are more inclined to stay in their job (2).

The results of our study showed that the mean score of ITS was higher in nurses with higher incomes; however, this relationship was not significant. Positive reinforcement in the form of increased salaries and benefits is one of the factors that can strengthen the ITS among nurses in the profession. Therefore, in line with the results of the present study, Chang et al (2015) also reported that increasing the salaries and benefits of nurses could result in nurses being more inclined to maintain their careers (11).

Our study faced two significant limitations. First, given the impact of cultural, social, and economic factors on the study variables, caution should be exercised when generalizing the findings to other research populations. Second, the study was conducted during the COVID-19 pandemic, which increased workloads and stress levels for nurses. To mitigate the possibility of non-participation, we tried to get information from participants when there was less work. We attempted to make the collected data highly accurate and precise. Thus, the results may not be entirely consistent with non-dangerous and non-epidemic times.

Conclusion

Less than half of the nurses participating in the study intended to stay in the nursing profession. This issue can be an alarm for Iran's health care system. Therefore, nursing managers and policymakers should consider appropriate strategies and interventions to increase nurses' intention to stay in the nursing profession. This issue can be an alarm for Iran's health care system. Therefore, nursing managers and policymakers should consider appropriate strategies and interventions to increase nurses' intention to stay in the nursing profession.

This study provided empirical knowledge about the factors associated with ITS among nurses, which can be used to inform and assist hospital managers in improving the factors related to ITS in the profession with the ultimate aim of improving healthcare quality for patients. It is recommended to conduct a study regarding the interest in nursing among nursing students and its relationship to staying in the profession.

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Ethical statement

The study has been approved by the Biomedical Research Ethics Committee of Zanjan University of Medical Sciences (Code: I.R.ZUMS.REC.1399.074). The study was undertaken with the understanding and verbal consent of each nurse. In this study, the rights of the participants and the principle of confidentiality and anonymity were observed.

Conflict of interest

The authors state that there is no conflict of interest.

Author contributions

The third author (K.A) guided and supervised all the steps of the study. Sampling and gathered data were conducted with the first author (P.M). The second author (F.GH) participated in data analysis and table drawing, interpretation, and the writing of the manuscript. Moreover, F.GH and K.A. played a pivotal role in manuscript writing and translating it into English from Persian. All authors read and approved the final manuscript.

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