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The role of professional attitudes in shaping care behaviors: insights from Iranian nursing students

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Abstract

Background The advancement of science and technology has significantly impacted nursing, emphasizing the importance of professional attitudes and caring behaviors. While previous studies have examined this relationship, limited research has considered the specific educational and sociocultural context of Iranian nursing students. This study addresses this gap by investigating how these factors shape professional attitudes and caring behaviors in an Iranian nursing education setting.

Methods Conducted at Tehran University of Medical Sciences in June 2024, the study involved 291 nursing students from their second to fourth years, selected through proportional random sampling. Data were gathered using the Professional Attitude for Student Nurses (IPASN) and Caring Behavior Inventory (CBI) instruments. Descriptive statistics, Pearson correlation, and multiple linear regression analyses were performed using Stata version 14.

Results A weak but statistically significant positive correlation was found between overall IPASN and CBI scores ($r=0.29$, $p<0.01$). Multiple regression analysis identified professional attitude ($\beta=0.257$, $p<0.001$) and satisfaction with nursing ($\beta=0.136$, $p=0.017$) as significant predictors of caring behaviors.

Conclusions Enhancing professional attitudes and satisfaction in nursing can improve caring behaviors, highlighting the need for targeted educational interventions and organizational changes.

Clinical trial number Not applicable.

Keypoints

- Nurses consider caring behavior to be an essential aspect of patient care in clinical settings.
- The unique role of universities in shaping the professional attitude of students is accomplished through education and competent trainers.
- Our study showed that improvement of nursing's professional attitude and overall job satisfaction can positively impact caregiving behaviors.

Keywords Professional attitude, Caring behaviors, Nursing students

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Background

Nursing is a dynamic profession that integrates social, applied, and empirical sciences [1]. Professionalism in nursing is a comprehensive concept that integrates knowledge, attitudes, behaviors, and values, serving as a foundation for nurses to provide ethical, high-quality, and patient-focused care [2]. In any profession, attitudes, influenced by underlying core values, act as guiding principles that dictate preferred behaviors and establish a framework for assessing actions [3]. Nursing practice is deemed professional when it adheres to professional moral values [4]. Values have a significant impact on individuals' social behaviors and perspectives. Professional behaviors of nurses, such as care prioritization and provision of quality services, are also influenced by their values [5].

Upon entering the workforce, most nursing students develop routine clinical care skills [6]. However, nursing education should extend beyond technical proficiency to emphasize the cultivation of caring behaviors and professional attitudes [4]. According to Leininger, caring behaviors encompass a range of actions, including providing comfort, compassion, and empathy [7]. As a fundamental component of nursing, these behaviors integrate technical expertise, emotional support, and effective communication to foster empathy and a strong commitment to patient well-being. They encompass professional conduct, responsiveness to patient needs, sensitivity, self-offering, support, and the creation of a conducive care environment [8]. This holistic approach is crucial for delivering ethical, compassionate, and high-quality care, ultimately enhancing patient outcomes [9].

An attitude is an emotional and mental state shaped by experiences, significantly influencing and directing an individual's behavior [10]. Attitudes possess two critical properties: they are enduring and encompass cognitive, emotional, and behavioral manifestations [11]. Nurses with a positive attitude toward their profession are more likely to meet professional expectations, deliver high-quality patient care [12]. Recent studies conducted in southern Iran indicate that Iranian nursing students exhibit moderate professional attitudes, with potential for further enhancement in converting these attitudes into effective caring behaviors [13].

The increasing demand for quality nursing care highlights the need for professional nurses. As a result, the importance of professionalism in nursing has grown, necessitating further research into its relationship with nurses' caring behaviors [14]. A systematic review indicated that numerous nursing students and nurses acknowledged a disparity in knowledge between the code of ethics and its practical implementation and professional attitude [6]. Although core moral values are typically shared universally, the values pertaining to patient

care are influenced by the cultural, social, economic, and religious contexts of each society. This necessitates the definition of these values within each country [15].

While studies like Sümen et al. (2022) have explored this connection, they focus on specific academic and healthcare settings that may not fully reflect the Iranian context [4]. This study aims to gain a better understanding of the impact of professional attitudes on the quality of nursing care and to identify areas for improving these attitudes and behaviors in nursing education.

Materials and methods

Study design and setting

This study used a cross-sectional descriptive-analytical method to determine the relationship between professional attitudes and caring behaviors among nursing students at Tehran University of Medical Sciences in June 2024.

Participants and recruitment

After obtaining the ethical charter and an introduction letter from Tehran University of Medical Sciences, the researcher presented the study objectives to the officials at the Faculty of Nursing, where the study was conducted.

Proportional random sampling was used to select participants. The inclusion criteria required participants to be in their second to fourth years of study (first-year students were excluded due to their lack of clinical experience and direct patient care) and to provide informed consent. Notably, all participants completed the research instrument.

To calculate the sample size for estimating average care behaviors and professional attitudes, the website <https://sample-size.net/sample-size-conf-interval-mean>, associated with UCSF University, was used. Values for type I error, estimation accuracy, and standard deviation were entered, resulting in a calculated sample size of 252. Accounting for a 10% nonresponse or incomplete questionnaire rate, the sample size was adjusted to 280. Ultimately, 291 samples were included in the study.

The study objectives and data confidentiality were explained to the participants. Each participant completed the survey instrument in approximately 10 to 15 min. Data were collected in a single phase over four weeks in the study environment.

Measurements

Sociodemographic information form

The sociodemographic information form used to evaluate the relationship between professional attitudes and caring behaviors among nursing students included eight items: age, gender, grade point average, reasons for choosing the nursing field, satisfaction with the field of study, desire to participate in scientific workshops related

to the field of study, and desire to engage in social activities such as school scientific associations.

Professional attitude for student nurses

Hisar et al. [27] devised this scale to measure the professional attitudes of student nurses [16]. The scale utilized is a 5-point Likert-type scale that comprises of 28 items and eight subdimensions. The subdimensions encompass the following aspects: “contribution to the augmentation of scientific information load,” “autonomy,” “cooperation,” “competence and ongoing education,” “participation in professional organizations and professional development,” “committee work,” “community service,” and “ethical codes and theory.” As the score ranged from 28 to 140, there was a noticeable increase in the professional attitude. The original scale demonstrated a Cronbach’s alpha coefficient of 0.90 [17].

Caring behavior inventory

Wu et al. [18] developed an instrument to investigate caring behaviors, originally consisting of 24 items. The psychometric properties of this tool were validated in Iran, resulting in four interrelated subscales: (i) the Respectfulness subscale (8 items), (ii) the Connectedness subscale (6 items), (iii) the Knowledge and Skill subscale (5 items), and (iv) the Assurance subscale (5 items). In the Iranian version of the tool, which demonstrated validity and reliability, one item was removed from the Respectfulness subscale, resulting in 23 items [19]. Participants rated each item on a six-point Likert scale ranging from 1 (never) to 6 (always). Caring behavior scores were calculated for each subscale and the overall scale based on the mean values of each scale separately. In Iran, Azimi et al. [20] conducted an evaluation of the psychometric

properties of this tool. The results showed a Cronbach’s alpha of 0.95, indicating a high level of internal consistency.

Ethical consideration

The Research Ethics Committee at Tehran University of Medical Sciences evaluated and granted approval for the study, which was conducted under the ethical code IR.TUMS.MEDICINE.REC.1402.752. Nursing students were given comprehensive information about the study’s objectives, their right to withdraw from participation and their data’s confidentiality. All participants provided informed consent. All procedures strictly adhered to the appropriate guidelines and regulations.

Data analysis

Descriptive statistics was employed to summarize quantitative variables, including minimum, maximum, mean, and standard deviation. For qualitative variables, frequency and percentage were used. A Pearson correlation test was utilized to explore the relationship between the main study variables (professional attitude scores and caring behaviors, along with their subscales). Additionally, we employed multiple linear regression analysis to account for adjusting background variables’ effect on the relationship between these two variables. Our significance level for all tests was set at less than 0.05. Stata version 14 was used for all statistical analyses.

Results

Participant social demographic characteristics

The study included 291 students with an average age of 21.4 (2.3) years and a mean grade point average of 17.0 (1.3). The gender distribution was 52.9% female and 47.1% male. Most students (72.5%) were interested in scientific workshops, and 55.0% were interested in social activities. Nursing satisfaction was reported by 61.9% of the students. The main reason for choosing the profession was migration (33.7%). For more details, the characteristics of the participants are given in Table 1.

Scores of the professional attitude for student nurses and caring behavior inventory

The overall mean score on the IPASN was 94.7 (17.3). Subdimension scores highlighted their dedication to various aspects of nursing professionalism: contributing to scientific knowledge 18.8 (6.6), autonomy 12.8 (2.5), cooperation 14.7 (3.4), competence and continuous education 11.5 (3.3), participation in professional development 9.5 (3.2), committee work 9.9 (3.1), community service 7.1 (1.9), and adherence to ethical codes 10.4 (2.5).

Similarly, the overall mean score on the CBI was 96.5 (26.2). Subscale scores demonstrated high levels

Table 1 Student characteristics (N = 291)

Items		Mean (SD)
Age		21.4 (2.3)
GPA		17.0 (1.3)
	Categorize	Frequency (Percentage)
Gender	Female	154 (52.9)
	Male	137 (47.1)
Desire to participate in scientific workshops	Yes	211 (72.5)
	No	80 (27.5)
Desire to participate in social activities such as school scientific associations	Yes	160 (55.0)
	NO	131 (45.0)
Satisfaction with the field of study	Yes	180 (61.9)
	No	111 (38.1)
The reason why the student chose this profession	Helping others	70 (24.1)
	Ease of finding a job	54 (18.6)
	Migration	98 (33.7)
	Job security	69 (23.7)

Note: GPA = Grade Point Average, SD = Standard Deviation

Table 2 Total and subdimension mean scores of the IPASN and CBI ($N=291$)

Scales	Minimum–Maximum	Mean (SD)
Overall IPASN mean score	28–140	94.7 (17.3)
Contribution to the increase of scientific information load	6–30	18.8 (6.6)
Autonomy	3–15	12.8 (2.5)
Cooperation	5–34	14.7 (3.4)
Competence, continuous education	3–15	11.5 (3.3)
Participation in professional organizations and professional development	3–15	9.5 (3.2)
Working in committees	3–15	9.9 (3.1)
Community service	2–10	7.1 (1.9)
Ethical codes and theory	3–15	10.4 (2.5)
Overall CBI mean score	23–138	96.5 (26.2)
Respectfulness	7–42	27.7 (8.6)
Connectedness	6–36	23.7 (7.5)
knowledge and skill	5–30	23.1 (5.3)
Assurance	5–30	21.9 (5.9)

Note: SD = Standard deviation

Table 3 Relationship between the total and subdimension mean scores of the IPASN scale and CBI ($N=291$)

CBI		Respectfulness	Connectedness	knowledge and skill	Assurance	CBI
IPASN						
Contribution to the increase of scientific information load	<i>r</i>	0.04	0.07	0.09	0.01	0.06
	<i>p</i>	0.50	0.22	0.13	0.93	0.35
Autonomy	<i>r</i>	0.26***	0.26***	0.41***	0.30***	0.30***
	<i>P</i>	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Cooperation	<i>r</i>	0.10	0.10	0.01	0.13*	0.11
	<i>P</i>	0.08	0.11	0.82	0.03	0.07
Competence, continuous education	<i>r</i>	0.23***	0.20***	0.27***	0.18**	0.23***
	<i>P</i>	< 0.001	< 0.001	< 0.001	0.002	< 0.001
Participation in professional organizations and professional development	<i>r</i>	0.16**	0.17**	0.28***	0.15*	0.20***
	<i>P</i>	0.006	0.003	< 0.001	0.01	< 0.001
Working in committees	<i>r</i>	0.34***	0.35***	0.40***	0.31***	0.37***
	<i>P</i>	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Community service	<i>r</i>	0.2**	0.21***	0.28***	0.18**	0.21***
	<i>P</i>	0.001	< 0.001	< 0.001	0.002	< 0.001
Ethical codes and theory	<i>r</i>	0.26***	0.29***	0.33***	0.25***	0.29***
	<i>P</i>	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
IPASN	<i>r</i>	0.25***	0.27***	0.32***	0.23***	0.29***
	<i>P</i>	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

of respectfulness 27.7 (8.6), connectedness 23.7 (7.5), knowledge and skill 23.1 (5.3), and assurance in patient care 21.9 (5.9). The results of the scores are shown in Table 2.

Correlation analysis of the professional attitude for student nurses and caring behavior inventory

A positive, weak, but statistically significant correlation was observed between the overall scores of IPASN and CBI ($r = 0.29$, $p < 0.01$). Additionally, a positive weak relationship between the IPASN sub-dimensions and the total CBI score was determined ($p < 0.05$). For more

details, the correlation analysis results are given in Table 3.

Factors influencing the caring behavior inventory

Based on the general information, only variables with statistically significant differences in CBI scores were selected for Multiple linear regression analysis. The results showed statistical significance in the regression analysis ($R^2 = 0.11$, $F = 11.83$, $P < 0.001$), and the explanatory power of CBI was 11%.

The IPASN scores ($\beta = 0.257$, $P < 0.001$) and satisfaction with nursing ($\beta = 0.136$, $P = 0.017$) had a considerable impact on the caring behaviors exhibited by the nursing

Table 4 Multiple linear regression analysis of caring behavior inventory (N = 291)

Independent variable	B	SE	Beta	t	P-value	95% CI LLCI ULCI
Constant	52.264	8.241	-	6.34	<0.001	36.044 68.485
IPASN	0.389	0.085	0.257	4.57	<0.001	0.221 0.557
Gender	6.194	2.916	0.118	2.12	0.035	0.455 11.933
Satisfaction with Nursing	7.297	3.031	0.136	2.41	0.017	1.332 13.262

$R^2=0.11$, Adjusted $R^2=0.10$, $F=11.83$, $P\text{-value}<0.001$, SE = Standard error, CI = Confidence Interval, GPA = Grade Point Average

students. Additionally, our results showed that CBI with gender was marginally significant ($\beta=0.118$, $P=0.035$). The results are shown in Table 3.

Discussion

According to our study, the mean score of professional attitudes for student nurses was 94.7 ± 17.3 . Recent research has indicated similar levels of professional attitudes. In research conducted by Sümen et al. [17], this score was 106.708 ± 20.24 among nursing students. The present study's findings indicate a positive correlation between students' professional attitudes and their caring behaviors.

Ak et al. reported a mean score of 113.43 ± 15.39 . This study aimed to investigate the effects of the COVID-19 pandemic on the professional attitude of nursing students in Turkey. The overall professional attitudes exhibited by nursing students during the COVID-19 Pandemic period were positively high [21].

Furthermore, Durmus and Erdem reported a mean score of 110.13 ± 15.73 for professional attitudes among 3rd and 4th year nursing students. This means that students' general attitude toward professionalism was found to be at a high level [22].

However, in the study of Shohani et al. [23], which was conducted on nursing students in Iran, they reported a lower mean score of 91.01 ± 15.7 . This indicated a moderate level of professionalism among Iranian nursing students.

There are several reasons and justifications for the lower average score of nursing students' professional attitudes in our society compared to other societies, such as the job conditions and relatively low income of nurses in hospitals. Moreover, the profession's social position, nurses' professional independence, and the clinical atmosphere contribute to the lower average score of professional attitudes. This impact is felt by students, especially those who are in the process of acclimating to clinical environments. Universities directly provide instruction in professional knowledge and skills but not attitudes. It would be great if any courses were designed to address nursing students' professional attitudes. Also, the professional attitude of nursing instructors will have a significant impact on the attitude of students. Therefore, training trainers with an acceptable professional attitude

can somewhat solve this problem [24]. Throughout their education, students should be exposed to teachings on professional attitudes and values to ensure the cultivation of competent professionals in nursing education [16, 25]. Therefore, educators can enhance students' professional attitudes by organizing the educational environment, creating role models, and providing advice [11].

Regarding the questionnaire dimensions used, the mean score of the "contribution to the increase of scientific information load" subdimension of the scale was 18.8 ± 6.6 . However, similar studies obtained scores higher than 20 [17, 21, 22]. Shohani et al.'s study showed lower figures concerning this subdimension [23]. The comparison of our study's findings with those of similar studies highlights the relatively weaker performance of Iranian students. The study mentioned above, conducted in Iran, suggested that students be given feedback on their performance to be persuaded to increase scientific knowledge [23]. Regarding other dimensions, the results of our study are almost the same as those of other similar studies [17, 21–23].

The CBI-24 score of the students had a mean value of 96.5 ± 26.2 . The results demonstrated that nursing students in the investigated community displayed noteworthy caring behavior. Other studies in this field have shown similar results [17, 26, 27]. The study found that nursing students obtained high scores in the subdimensions of the CBI-24. Regarding the subdimensions, the highest score was obtained for respectfulness, whereas the lowest score was observed for assurance. Sümen et al.'s findings align with our own [17].

Several approaches have been assessed to enhance caregiving behavior. According to a study conducted by Elahi et al., a care workshop can potentially improve care behaviors among nurses [28]. Moreover, a significant correlation has been found between the caring behaviors displayed by instructors and the subsequent positive influence on the caring behaviors demonstrated by nursing students. The competence of caring can be fostered in nursing students by implementing positive faculty modeling and role modeling [29].

The findings of our study indicated a positive and statistically significant correlation between the total scores of the two questionnaires utilized. However, this relationship was not strong. The results of our study were

in line with those of Sümen et al. [17]. This means that with any improvement in students' professional attitudes, an improvement in caring behavior can be achieved. However, few studies have investigated the relationship between these two phenomena [4, 12]. Given the low R^2 value of 0.11, it is clear that the regression model explains only a minimal amount of variance in caring behaviors. This suggests that other important factors that could impact caring behaviors may not have been included in the model. Therefore, the model's explanatory power is limited, and this finding raises concerns about the adequacy of the included variables. Future studies can confirm and emphasize the need to increase professional attitudes to improve care behavior. If such a hypothesis is confirmed, changes should be made in educational policies to improve students' professional attitudes.

Limitations and future research

Although the regression model provided valuable insights, we acknowledge that the omission of a comprehensive set of control variables may have limited the scope of our findings and affected the validity of the conclusions drawn. The decision to limit the number of control variables was based on the available data and the scope of this study. However, we agree that including additional control variables—such as psychological factors, socioeconomic status and personal experiences—could improve the robustness of the findings. The low R^2 value (0.11) further highlights the need for a more comprehensive modeling approach or additional variables to better explain the variance in caring behaviors. Future research should consider incorporating these additional variables to better capture the complexity of the relationship between professional attitudes and caring behaviors.

Additionally, it is important to note that our study excluded first-year nursing students due to their limited clinical experience, which may affect the generalizability of our findings. While this approach aimed to include only students with sufficient clinical exposure, future studies involving students at different stages of their education could provide a more comprehensive understanding of professional attitudes and caring behaviors across the entire academic trajectory.

In addition, the cross-sectional nature of this study limits our ability to establish causality between professional attitudes and caring behaviors. Longitudinal studies, which follow nursing students over time, could provide more comprehensive insights into how professional attitudes evolve and how they impact caregiving behavior in the long term. Further, increasing the sample size could enhance the representativeness of the study and improve the generalizability of the findings.

Conclusion

Our findings revealed a positive professional attitude and a strong commitment to caring behaviors among the participants. Additionally, the results showed a significant positive correlation between nursing students' professional values and caring behaviors. Professional attitude, gender, and satisfaction with nursing were all determined to be predictors of caring behavior. By enhancing students' professional attitudes and satisfaction, we can achieve better levels of caring behavior among them.

Relevance for clinical practice

While the correlation between professional attitudes and caring behaviors in our study was relatively weak, it still highlights the importance of nurturing professional attitudes in nursing education and clinical practice. Even modest improvements in professional attitudes could contribute to enhanced caring behaviors, which are fundamental to the quality of patient care.

Nursing education programs should prioritize the development of professional attitudes alongside clinical skills. Incorporating training that emphasizes professional values, empathy, self-reflection, and ethical considerations can positively influence students' caring behaviors. Furthermore, the role of clinical instructors cannot be overstated, as their professional attitudes and behavior significantly influence students. Nursing schools and healthcare institutions should provide opportunities for instructors to model positive professional behavior and foster an environment that supports professional growth.

Additionally, implementing workshops, seminars, or simulation-based learning experiences focused on professional behavior and caring attitudes could help strengthen students' commitment to their professional role and improve patient care outcomes.

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Author contributions

HBD, and RN, was involved in the conception and organization of the study. AC, YR, AD were involved in the execution and data collection of the study; RN and HBD participated in statistical analysis design and/or execution. KP, ME and RA, prepared the first draft of the manuscript. All authors contributed to the preparation, critical review and all of them approved the final manuscript.

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Data availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Declarations

Ethics approval and consent to participate

The current study was assessed and approved by the Research Ethics Committee at Tehran University of Medical Sciences (Ethical code: IR.TUMS.MEDICINE.REC.1402.752). Nursing students were given comprehensive information about the study's objectives, their right to withdraw from participation, and the confidentiality of their data. Informed consent was obtained from all participants. All procedures strictly adhered to the appropriate guidelines and regulations.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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