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Assessment of Informatics Competency Among Nursing Faculty Members and Its Application in Educating Nursing Students at Abadan Nursing Faculty

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Abstract

Background: Nursing informatics in educational activities can serve as a strategy to bridge the gap between clinical practice and nursing education programs.

Objectives: This study aimed to assess the informatics competency of nursing faculty members and its application in educating nursing students at Abadan Nursing Faculty.

Methods: This descriptive-analytical research was conducted in 2023 at Abadan Nursing Faculty. The sample consisted of 73 faculty members from the nursing, operating room, and anesthesia departments, who were included in the study through census sampling. Data collection was performed using the standardized Nursing Informatics Competency Assessment Tool (NICAT) and an electronic teaching aids checklist. Data were analyzed using SPSS version 18, with independent *t*-tests, one-way analysis of variance (ANOVA), and Pearson's correlation at a significance level of $P < 0.05$.

Results: The mean score of faculty members' nursing informatics competency at the Nursing Faculty was 110 out of a maximum of 150, placing it within the proficient range. The highest score for nursing informatics competency was related to the informatics literacy dimension (47.65), while the lowest was related to the information management skills dimension (19.54). Information management skills ($r = 0.881$, $P < 0.001$), computer literacy ($r = 0.871$, $P < 0.001$), and informatics literacy ($r = 0.976$, $P < 0.001$) were significantly correlated with nursing informatics competency. Faculty members reported the highest use of multimedia content development (mean score = 4.19) and the lowest use of robotic surgery (mean score = 1.71).

Conclusions: Faculty members' informatics competency was reported to be at a proficient level. However, due to advancements in technology and transformations in nursing care, it seems necessary to improve nursing faculty members' abilities in all aspects, particularly in the information management skills dimension. It is recommended to hold faculty development programs regarding the integration of technology into the curriculum to elevate the quality of education.

Keywords: Nursing Informatics, Competency, Nursing Education

1. Background

Advances in technology and the shift toward digital health services have significantly impacted the professional work of nurses (1). Considering that nurses are primary users of information technology, informatics is a key professional competency for their clinical performance (2). Nursing informatics is a nursing specialty that influences the learning environment, interprofessional collaboration, patient care, strategic planning, and patient satisfaction (3). It has expanded relationships with patients via teleconsultation and internet-based service provision, culminating in improved quality of care, reduced unnecessary visits, and savings in time and costs (4). Additionally, nursing informatics contributes to nurses' clinical performance in areas such as telemonitoring, workload assessment, and interventions. Nurses can utilize nursing informatics to assist in cost control, work process improvement, decision support, budgeting tools, and cost savings. It also supports nursing education through electronic teaching and learning, as well as assessments and analyses related to academic outcomes (5). Initiatives related to nursing

informatics have been documented in the literature since 1984, with leading countries identified as the United States, United Kingdom, Canada, Australia, and Taiwan (3). The role of nursing informatics in clinical, educational, and research settings was introduced in Iran in 2012. Although there have been limited practical applications and operational programs in nursing informatics in Iran, studies in this field began before the past decade and have exhibited remarkable growth (6).

In recent years, the necessity of focusing on nursing informatics has become evident due to the growing use of technology in the healthcare sector. This aligns with the capacities outlined in the Comprehensive Health System Map and the Comprehensive Scientific Map of the country, which aim to expand the use of information technology, making it a prominent goal in the nation's development. Given the expansion of digital tools in healthcare service delivery, it is expected that graduates will enter the professional work environment ready to employ these technologies (7).

Medical education must be prepared to satisfy the healthcare needs of society and align itself with new technologies (8). The role of electronic learning (e-learning) in the context of ongoing education for nurses and students has become increasingly important under current conditions (9). However, nursing education programs have not defined standard criteria for nursing informatics skills, and nurses also lack the necessary readiness or competencies to effectively utilize IT in patient care. Curriculum reforms are gradually being implemented to integrate informatics into the curriculum and upgrade learning technologies, accompanied by educational interventions (10, 11). Nursing faculties are tasked with preparing nursing students for clinical practice using information and communication technology tools in their educational programs. However, evidence suggests a significant gap in informatics competency among nurses, which often originates from the informatics knowledge of instructors (12). Faculty members face the challenge of developing strategies to integrate informatics into nursing curricula, aiming to educate a nursing workforce competent in working with electronic health records, standardized terminology, decision-making support systems, and evidence-based practice (13). Indeed, it can be said that the most crucial determinant of the status of nursing informatics education is the presence of qualified individuals and expert faculty members in this field (14). Previous studies have highlighted the need for appropriate actions by officials to prepare faculty members to teach nursing informatics skills to students and to assess the feasibility and decision-making regarding the establishment of master's and doctoral programs in nursing informatics in Iran (15, 16). The integration of information technology into the curriculum directs and guides the teaching-learning process, and institutional executive and academic staff must be aware of the evaluation criteria for this integration. To elevate the informatics knowledge and skills among faculty members and students, training workshops should be held on how to use technologies in the teaching-learning process. Moreover, higher education institutions should provide technology users with up-to-date, high-quality hardware and software learning materials and resources (17). The more informatics is utilized, the more active and current the faculty members' research and educational activities become (18). Informatics indeed empowers professionals to play pivotal roles in designing, implementing, and utilizing healthcare models (19).

2. Objectives

Since one of the methods for enhancing the quality of nursing education is to elevate faculty members' knowledge and skills in the field of nursing informatics, and considering the limited research in this area, the present study aimed to assess the informatics competency of nursing faculty members and its application in educating nursing students at Abadan Nursing Faculty.

3. Methods

This descriptive-analytical study was conducted in 2023 at Abadan Nursing Faculty. The research population included 81 faculty members from the nursing faculty. Eight individuals were not included in the study due to having less than one year of experience or failing to complete the questionnaire. The research sample consisted of 73 faculty members with nursing degrees who taught in nursing, operating room, and anesthesia training groups, and who were included in the study through census sampling. The inclusion criteria included a willingness to participate in the study and at least one year of teaching experience at the Nursing Faculty. The exclusion criteria were unwillingness to cooperate and incomplete questionnaires.

The Nursing Informatics Competency Assessment Tool (NICAT) Questionnaire, an electronic teaching aids checklist, and a demographic information questionnaire were used to collect data. The NICAT was developed in 2015 by Rahman in the United States based on the standards of the American Nurses Association

(ANA) and Banner's nursing skills acquisition model. The NICAT can be employed to evaluate educational programs and nurses' informatics competency. This tool assesses informatics competency using 30 components across three dimensions. The first dimension measures computer literacy with 10 questions, the second dimension measures informatics literacy with 13 questions, and the third dimension measures information management skills with 7 questions. The NICAT is rated on a five-point Likert Scale from 1 to 5 (1 = no competency, 2 = low competency, 3 = competent, 4 = highly competent, and 5 = extremely competent). The total score of the questionnaire ranges from 30 to 150, with higher scores indicating greater nursing informatics competency. A total score of 30 denotes a novice, 31-59 denotes an advanced beginner, 60 - 89 denotes a competent nurse, 90 - 119 denotes a proficient nurse, and 120 - 150 denotes an expert nurse (20). Abd El reported a Cronbach's alpha of 0.846 for this questionnaire in their study (21). Furthermore, Abell et al. reported Cronbach's alpha coefficients of 0.942 for the total questionnaire, and 0.89, 0.91, and 0.84 for the computer literacy, informatics literacy, and information management skills subscales, respectively (22). The NICAT reliability in Iran was established by Jouparinejad et al. using a Cronbach's alpha of 0.95, indicating sufficient internal consistency (23). The electronic teaching aids checklist was designed by Mascher based on Staggers' standard Nursing Informatics Competency Questionnaire and the ANA recommendations. This checklist provides faculty members with a list of electronic teaching aids from which they can select based on their skills and experiences (24). In this study, the content validity of the checklist was evaluated by ten faculty members, and its reliability was confirmed with a Cronbach's alpha of 0.92. The demographic information questionnaire also consisted of questions about gender, academic rank, teaching department, teaching experience, educational level, and type of course.

In order to collect data, and after obtaining the necessary permissions, the researcher uploaded the questionnaires onto the Digi Survey electronic system and sent the response link to the participants' contact numbers. The researcher used social media to send a message to participants explaining the study's objectives. Participants clicked on the provided link, first completed the informed consent form, and then completed the questionnaires.

After data collection, the data were entered into SPSS version 18. For descriptive analysis, frequency percentage, mean, and standard deviation (SD) were used, while the Kolmogorov-Smirnov test was employed to assess the normality of the data. The independent *t*-test, analysis of variance (ANOVA), and Pearson's correlation coefficient were utilized to examine the relationships between the questionnaires and their different dimensions at a significance level of $P < 0.05$.

4. Results

In this study, 73 faculty members from Abadan Nursing Faculty were investigated. Of these, 24 (32.9%) were male and 49 (67.1%) were female (mean age ± SD = 34.34 ± 8.35). The study results demonstrated that the mean score of faculty members' informatics competency was 110 out of a maximum of 150, falling within the proficient range. The highest score belonged to the informatics literacy dimension (mean ± SD = 47.65 ± 11.85), while the lowest belonged to the information management skills dimension (mean ± SD = 19.54 ± 7.74) (Table 1).

In the computer literacy dimension, the component of troubleshooting basic computer system problems, such as checking the power source and restarting the computer and printer, showed the lowest level of competency (mean score = 4.04). In contrast, the component of recognizing basic computer system components, such as the mouse, monitor, and workstation, exhibited the highest level of competency (mean score = 4.94) among faculty members. Additionally, in the informatics literacy dimension, the component of using statistical data and reports to validate and enhance the quality and evaluation of unit performance indicated the lowest level of competency (mean score = 2.60). Conversely, the component of managing computer system security to protect data, tools, and usernames and passwords exhibited the highest level of competency (mean score = 3.97) among faculty members. In the information management skills dimension, faculty members had the lowest level of competency (mean score = 2.46) in the component of creating and documenting a care plan in an electronic health record, while they demonstrated the highest level of competency (mean score = 3.30) in using systems, such as the hospital information system (HIS), to assist in patient admission and discharge processes.

Pearson's correlation coefficient was employed to assess the correlation of informatics competency with the computer literacy, informatics literacy, and information management skills dimensions. According to the results, informatics competency ($P < 0.001$) had a statistically significant positive correlation with information management skills ($r = 0.881$, $P < 0.001$),

Table 1. The Informatics Competency Level and Its Three Dimensions

Nursing Informatics Competency Dimensions	Values [a]
Computer literacy	40.01 ± 6.19
Informatics literacy	47.65 ± 11.85
Information management skills	19.54 ± 7.74
Total score of nursing informatics competency	110.21 ± 23.79

[a] Values are expressed as mean ± SD.

computer literacy (r = 0.871, P < 0.001), and informatics literacy (r = 0.976, P < 0.001).

In the investigation of faculty members' utilization of electronic resources for teaching, research, and clinical instruction, findings revealed that the highest usage was observed in multimedia content development (mean score = 4.19), while the lowest usage was noted in robotic surgery (mean score = 1.71). According to Pearson's correlation analysis, informatics competency demonstrated a significant correlation with the use of all investigated electronic resources, except for peer assessment (r = 0.118, P = 0.319), really simple syndication (RSS) feeds (r = 0.140, P = 0.238), and robotic surgery (r = 0.190, P = 0.177). Table 2 presents the extent and types of electronic resources and their correlation with faculty members' informatics competency.

An examination of informatics competency based on demographic characteristics revealed significant differences related to gender (P = 0.003), academic rank, teaching department, teaching experience, educational level taught, and type of course (P = 0.001). As shown in Table 3, a higher proportion of male faculty members (37.5%) were at the expert level, whereas female faculty members were more likely to be at the proficient level (65.3%). Additionally, 84.6% of associate faculty members were at the expert level, representing the highest percentage compared to faculty members at other academic ranks. Faculty members who taught in both the nursing-anesthesia and operating room departments simultaneously exhibited the highest percentage of expertise levels (45.5%). The faculty members' expertise level increased with teaching experience from 1 to 15 years but showed a descending trend in those with more than 15 years of experience. All faculty members who taught at the master's and doctoral levels were at the expert level, and the highest expertise level was found among faculty members who taught both theoretical courses and clinical skills centers (37.5%). Table 3 presents the demographic characteristics of the Nursing Faculty faculty members and the differences in informatics competency scores based on demographic variables.

5. Discussion

With advances in technology, informatics has garnered significant attention in nursing education. According to the American Association of Colleges of Nursing (AACN) principles from 2021, integrating informatics competencies into nursing curricula requires certain actions, including the education of faculty members and enhancement of their informatics competencies (25).

The results of the current study revealed that the mean score of faculty members' informatics competency was within the proficient range. Consistent with the findings of this research, a study conducted by Carter to investigate the informatics literacy of nursing students and faculty members at a university in the southeastern United States demonstrated that faculty members' informatics literacy ranged from competent to proficient levels (26). Bove and Sauer also conducted a study to determine nursing faculty members' informatics competency levels and to identify barriers to informatics education. The results of their research indicated a mean informatics competency score at the proficient level, with over 60% of faculty members reporting their skills at the proficient to expert levels. The most common barriers to integrating informatics into nursing curricula were technological challenges (17.2%), lack of knowledge (15.5%), and lack of resources (12.1%) (27). However, Hwang's study demonstrated that nurses' informatics competency was at the competent level (28). The slight differences in the results of these studies may be attributed to the types of educational programs, faculty empowerment, and the cultural context of the research settings in other countries. Additionally, the temporal trends of the studies suggest that nurses' informatics competency scores have been increasing in recent years.

The results of this study revealed that the highest informatics competency score belonged to the

Table 2. The Extent and Type of Electronic Resources Regarding Faculty Members' Informatics Competency

Tool	Frequency (%)	Mean ± SD	Correlation Coefficient	P-Value	Tool	Frequency (%)	Mean ± SD	Correlation Coefficient	P-Value
Multimedia content development	83.8	4.19 ± 0.95	0.337	0.004	Google group	62.8	3.14 ± 1.35	0.611	0.001
Online exam	80.02	4.01 ± 1.09	0.280	0.016	Scorum content development	61.8	3.09 ± 1.28	0.324	0.005
Web search	80.0	4.00 ± 1.31	0.442	0.001	Content edits software	60.8	3.04 ± 1.51	0.648	0.001
Virtual homework	79.2	3.96 ± 1.09	0.254	0.03	Web-based file sharing	59.4	2.97 ± 1.45	0.408	0.001
Web-based education portal	76.4	3.82 ± 1.52	0.284	0.015	Screen recorder	55.6	2.78 ± 1.37	0.608	0.001
Educational video	76.4	3.82 ± 1.27	0.270	0.021	Webcam	55.4	2.77 ± 1.14	0.344	0.003
Electronic books & magazines	71.8	3.59 ± 1.31	0.712	0.001	Teleconference	48.6	2.43 ± 1.41	0.363	0.002
Simulation of clinical skills	71.2	3.56 ± 1.12	0.462	0.001	Virtual club journals	54.8	2.74 ± 1.38	0.522	0.001
Electronic logbook	70.2	3.51 ± 1.16	0.390	0.001	Education using virtual games	52.4	2.62 ± 1.60	0.448	0.001
Training workshop	69.8	3.49 ± 1.26	0.545	0.001	Social bookmark	52.2	2.61 ± 1.41	0.367	0.001
Podcast	69.2	3.46 ± 1.31	0.731	0.001	Wiki technology	48.4	2.42 ± 1.44	0.421	0.001
Smart online class	69.0	3.45 ± 1.20	0.461	0.001	Dropbox	41.4	2.07 ± 1.32	0.390	0.001
Electronic library	68.0	3.40 ± 1.20	0.769	0.001	RSS feeds	40.8	2.04 ± 1.21	0.140	0.238
Forum	66.2	3.31 ± 1.02	0.484	0.001	Peer assessment	40.6	2.03 ± 1.27	0.118	0.319
Virtual networks	65	3.25 ± 1.08	0.611	0.001	Robotic surgery	34.2	1.71 ± 1.25	0.160	0.177

Abbreviations: SD, standard deviation; RSS, really simple syndication.

informatics literacy dimension. According to Uneke et al.'s study on healthcare policymakers in Nigeria (29) and Eldoushyand and Behairy's study conducted at the National Liver Transplant Institute in Egypt (30), the highest score was also related to informatics literacy. The results of the present study align with these findings. In educational and clinical settings, the need to conduct advanced searches, document data, and engage with various electronic tools and online environments, such as virtual learning, can lead to greater familiarity with using the Internet and related software. This could be a potential reason for the higher informatics literacy score reported in this study compared to other dimensions.

Furthermore, the results of the current study demonstrated that the lowest informatics competency score belonged to the information management skills dimension. Consistent with this study, the results of Ebrahimi's research on nursing faculty members and students (31), Bove and Sauer's study on faculty members (27), and Rajalahti's study on faculty members and clinical nurses (32) also reported that the lowest informatics competency score was in the information management skills dimension. The era of paper-based systems for documenting patient care is coming to an end, and the use of electronic health records will become mandatory for all documentation activities (32). Sound decision-making to improve nursing performance requires evidence-based practices, which depend on information retrieval skills (33) and access to research findings, both in education and in the workplace. Therefore, it is recommended that educational and empowerment programs be implemented in the area of information management skills, which had the lowest mean score, to enhance nursing faculty members' informatics competency in this dimension, enabling them to deliver more effective performance by utilizing the latest evidence.

In this study, multimedia content development, online exams, and web searches were the most frequently used electronic resources, while RSS feeds, peer assessments, and robotic surgery were the least utilized. The extent and types of teaching aids used in studies varied and were reported differently. According

Table 3. Informatics Competency Level Based on Demographic Variables [a]

Variables	Expert	Proficient	Competent	Advanced Beginner	Novice	Total	Sig.
Gender							0.003 [b]
Male	37.5	20.8	41.7	0.00	0.00	24	
Female	16.3	65.3	18.4	0.00	0.00	49	
Academic rank							0.001 [c]
Educational instructor	17.7	55.5	26.8	0.00	0.00	45	
Clinical instructor	9.0	9.0	63.6	0.00	0.00	11	
Assistant professor	84.6	7.7	0.00	7.7	0.00	13	
Associate professor	50.0	50.0	0.00	0.00	0.00	4	
Teaching department							0.001 [c]
Operating room	0.00	50.0	50.0	0.00	0.00	12	
Nursing	40.0	43.3	16.7	0.00	0.00	30	
Anesthesia	13.3	33.3	33.3	13.3	0.00	15	
Anesthesia/operating room	0.00	100.0	0.00	00.0	0.00	3	
Anesthesia/nursing	0.00	100.0	0.00	00.0	0.00	2	
Nursing/anesthesia/operating room	45.5	54.5	0.00	0.00	0.00	11	
Teaching experience, (y)							0.001 [c]
1 - 2	9.5	23.8	52.3	0.00	0.00	21	
3 - 5	23.8	52.4	23.8	0.00	0.00	21	
6 - 10	30.0	70.0	0.00	0.00	0.00	20	
11 - 15	77.7	22.3	0.00	0.00	0.00	9	
Above 15	0.00	100.0	0.00	0.00	0.00	2	
Educational level							0.001 [c]
Associate/bachelor	40.0	40.0	40.0	0.00	0.00	5	
Bachelor	13.5	48.0	28.8	0.00	0.00	52	
Bachelor/master	0.00	100.0	0.00	0.00	0.00	9	
Master	0.00	100.0	0.00	0.00	0.00	5	
Master/doctoral	100.0	0.00	0.00	0.00	0.00	2	
Type of course							0.001 [c]
Theoretical	50.0	50.0	50.0	0.00	0.00	4	
Theoretical/clinical internship	33.3	33.3	33.3	0.00	0.00	12	
Theoretical/clinical skills center	37.5	50.0	0.00	12.5	0.00	8	
Theoretical/community clinical internship	0.00	100.0	0.00	0.00	0.00	1	
Theoretical/clinical skills center/clinical internship	28.5	58.0	13.5	0.00	0.00	31	
Theoretical/clinical skills center/community clinical internship	20.0	0.00	80.0	0.00	0.00	5	
Clinical internship	16.6	0.00	66.8	16.6	0.00	12	

[a] Values are expressed as (%).

[b] $P < 0.05$ was considered statistically significant.

[c] $P < 0.005$ was considered statistically significant.

to Bove and Sauer's study (27), electronic health records, learning management systems, electronic libraries, and online resource searches were the most frequently employed by faculty members in teaching. One study utilized Google Glass, a hands-free wearable technology similar to traditional eyeglasses, for clinical education (34). This technology enables students to access physician orders, the Internet, email, and phone calls while providing patient care (11). Electronic simulation was another innovative technique identified to enhance informatics competencies. In a mixed-methods study, a virtual clinical simulator was employed to teach graduate-level nursing students about clinical care (35). Additionally, another study regarded the use of electronic health records as a beneficial strategy for educating nursing students, finding that practice with electronic health records helped students prioritize

patient care, provide timely feedback, and increase their confidence (36).

The results of the present study demonstrated that informatics competency decreased among faculty members with more than 15 years of teaching experience. In other words, faculty members who have taught for many years using traditional teaching methods may find it more difficult and less likely to utilize informatics in their teaching environments, and they may need to update their skills. Based on the findings of this study, the type of course was significantly correlated with faculty members' informatics competency levels. Implementing curricula designed with the assumption of in-person education while incorporating informatics and electronic methods may be accompanied by numerous challenges and less inclination from faculty members. The mismatch between the dimensions and objectives of the curriculum and electronic teaching, the virtual social communication platform, the inflexibility of traditional teaching methods, issues related to the fairness of educational evaluation, and access to electronic resources (37), as well as bandwidth and Internet speed, are examples of these challenges. In line with this, studies have suggested that the amount of electronic content developed by faculty members is entirely dependent on the course and the professor, and some faculty members only use educational and evaluation systems due to university requirements (38).

In their review study, Forman et al. examined educational strategies regarding the informatics competencies of nursing faculty and students. The results indicated that nursing education programs do not currently meet standardized criteria for teaching nursing informatics competencies. While there is global consensus on the importance of incorporating informatics competencies into nursing curricula, there is limited agreement on the most effective approaches for teaching these competencies (11). Notably, e-learning tools and resources lack a defined role within the curriculum. Although e-learning is utilized, the tools and materials are not well-defined, leaving faculty and students without access to advanced resources for applying informatics in education and often relying solely on mobile phones. Thus, despite the significant increase in technology integration in educational systems, students, faculty members, and curriculum planners still face considerable challenges (39).

The skills of faculty members, along with their access to hardware and software resources, are essential in utilizing informatics. Socio-cultural and organizational factors also affect the degree and manner in which informatics is used in student education (40). To facilitate e-learning, administrators need to make greater efforts to promote informatics usage, primarily by empowering faculty members and fostering an organizational culture conducive to e-learning implementation (31). Teaching nursing informatics competencies and embedding them in curricula relies heavily on faculty members' expertise. Therefore, prioritizing the education and development of faculty members is essential to enable them to support students in achieving the required competencies (41).

This study investigated the informatics competency of faculty members and its application in student education. Although the faculty members' informatics competency was reported to be at a proficient level, it appears that competencies in all dimensions, particularly in the information management skills dimension, need to be expanded and enhanced. Moreover, considering the low percentage of interactive tool usage in e-learning, it is recommended that faculty development courses be held to integrate technology into educational programs and employ interactive techniques to promote the quality of education. It is hoped that curriculum planners and educational technology experts will pay special attention to developing a technology-integrated curriculum in nursing education, and that universities will provide the necessary infrastructure and facilities for integrating informatics into education and empowering nurses. A limitation of this study is that a self-report method was employed to complete the questionnaires. It should be noted that factors such as embarrassment about having low competency or the pressure to be competent in informatics may have influenced the results of this report.

5.1. Highlights

Enhancing informatics skills of Nursing Faculty Members.

Increasing the use of informatics Application in the education of nursing students.

The necessity to integrate technology in nursing education programs.

5.2. Lay Summary

This study examined the informatics competency of nursing faculty members and its application in educating nursing students at Abadan Nursing Faculty. Due to advancements in technology and transformations in nursing care, it seems necessary to improve nursing faculty members' abilities in all

aspects, particularly in the information management skills dimension. It is recommended to hold faculty development programs regarding the integration of technology into the curriculum to elevate the quality of education.

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Footnotes

Authors' Contribution: Study concept and design, drafting of the manuscript, critical revision of the manuscript for important intellectual content, and study supervision: A. A.; acquisition of data: M. B.; analysis and interpretation of data: S. S.

Conflict of Interests Statement: The authors declare no conflict of interest in the present study. Artificial intelligence is not used in this article.

Data Availability: The dataset presented in the study is available on request from the corresponding author during submission or after publication.

Ethical Approval: This research has been approved by the Ethics Committee of Abadan University of Medical Sciences (IR.ABADANUMS.REC.1399.203). The principles and standards of the National Ethics Committee have been observed. Moreover, the information of all participants has been kept confidential.

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Informed Consent: Participants clicked on the provided link, first completed the informed consent form, and then completed the questionnaires.

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