Analysis of the concept of nurses' autonomy in intensive care units: A hybrid model

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Abstract

Purpose: This study aimed to analyze the concept of autonomy among ICU nurses in the third populous city in Iran using the hybrid model and to explain the characteristics of this concept.

Background: Autonomy is a relatively new concept in Intensive Care Unit nurses, it can have great outcomes for improving cooperation and autonomous performance in healthcare. Nonetheless, lack of theoretical and conceptual clarity for this concept has resulted in an incorrect perception amongst health staff and policymakers.

Methods: this study was conducted using Schwartz-Barcott and Kim's hybrid model including theoretical, field work, and analytical phases and according to COREQ checklist.

Results: Based on the results, the antecedents of this concept were powerful human workforce, organizational platform, and the society's sociocultural platform. Its attributes were professionalism and having personal capabilities. Finally, the consequences included personal competencies, promotion of care quality, improvement of the view towards the profession, and professional outcomes.

Conclusion: Nurses' autonomy in ICUs can facilitate their empowerment that results in the promotion of their care behaviors followed by the improvement of patients' outcomes and care quality.

Background

In Oxford Dictionary, autonomy has been defined as the ability to operate and make decisions without being controlled by others. In Longman Dictionary, it has been defined as the ability or opportunity to make personal decisions without being controlled by another person(1, 2).

Nurses' autonomy is among the issues that has been frequently explored in numerous studies. In fact, autonomy is among the prerequisites for professionalism in the nursing profession(3). According to Iranmanesh et al., this concept is the most important intrinsic motivation element for an occupation, which implies independence, responsibility, and authority and leads to the feeling of competence and belonging to a social group. When nurses trust their judgement and act autonomously, they will feel satisfied with their independent experience and can affect health policies(4). Hence, professional autonomy is considered a basic element for healthcare specialists as well as an important dimension of a healthy and positive nursing workplace. In this context, the profession encompasses control, autonomy, and ability to use clinical decision-making and judgement for patient care(5). The present study aims to analyze the concept of nurses' autonomy in Intensive Care Units (ICUs) of the hospitals affiliated to XXX using the hybrid model. ICU is one of the most important hospital wards, and autonomy in this stressful environment together with increased work pressure necessitate the identification of this concept. Limited autonomy in ICUs results in nurses' restricted authority for using their personal and professional logics and moral values in patient care, eventually leading to a reduction in job satisfaction. In other words, weak nurse-physician cooperation and nurses' low autonomy may limit ICU nurses' ability for clinical

decision-making(6-8). In the present study, Schwartz-Barcott and Kim's hybrid model combining inductive and deductive approaches has been used to clarify the basic dimensions of autonomy in ICU nurses. The strength of this method lies in the collection of data by integration of theory and practice. Therefore, it is in complete concordance with the present study objectives.

Methods

This study aimed to analyze the concept of nurse autonomy in ICUs using a hybrid model according to COREQ checklist (COnsolidated criteria for REporting Qualitative research)(9). The model consisted of theoretical, field work, and analytical phases, which were carried out through qualitative analysis of the phenomena while investigating texts, instruments, and articles and interviewing participants(10-12). In the theoretical phase, the concept was selected and the definitions related to autonomy among ICU nurses obtained through searching articles, instruments, and texts were compared and analyzed to achieve a comprehensive definition. During field work, the setting as well as the participants were chosen and the data were collected and analyzed. Additionally, the differences between the definitions of ICU nurses' autonomy and their practice in clinical settings were identified. Finally, the findings of the two aforementioned phases were compared and weighted in the analytical phase, resulting in a clear definition of nurses' autonomy in ICUs (12). What follows includes the phases of analysis of the concept of ICU nurses' autonomy in the present research.

Phase 1: Theoretical phase

Search strategy for concept analysis

After reviewing books, studies were searched via a protocol-driven strategy followed by the snowball strategy in accordance with the recommendations proposed by Greenhalgh and Peacock (13) (Figure 1). In doing so, seven databases, namely ProQuest, PubMed, Science Direct, Scopus, Weilly, MagIran, and SID, were searched using 'nursing,' 'autonomy,' and 'intensive care' and other MESH keywords in Persian and English from April to June 2019:

"nursing" OR "registered nurses" OR "personnel nurse" OR "nurse" AND "nursing autonomy" OR "autonomy" OR "professional autonomy" OR "autonomy, nursing" AND "intensive care unit" OR "unit, intensive care" OR "intensive care, unit".

Eligibility criteria

At first, 2491 articles were found, which reduced to 987 articles after eliminating the duplicates. Then, searching was filtered by language (Persian and English) and only specialized nursing journals, books, and theses were selected, which decreased the number of articles to 658. Afterwards, the titles and abstracts were screened for their relevance. The articles whose full texts were not available were excluded, as well. Then, the remaining full texts were evaluated for eligibility. Accordingly, the articles that

showed how the concept was perceived, described, and functionalized were entered into the research. After all, 46 related articles, two instruments, and four books were enrolled.

Since this study aimed to identify the definitions, antecedents, attributes, and consequences of the concept, the credibility and quality of the texts were not evaluated. Additionally, selection of the materials was continued until reaching a consensus regarding the depth of perceptions and explanations. After investigating 46 articles, four books, and two instruments, no new information was achieved and, consequently, searching was stopped. After all, the definitions, attributes, antecedents, and consequences were screened and integrated by the research team.

Content analysis

Content analysis was used to analyze the concept of nurses' autonomy in ICUs. Clarification process is a dimension of the content analysis strategy presented by Rogers, which includes the analysis of the existing definitions and the identification of antecedents, attributes, and consequences (12). In the present study, each definition was divided into meaning units and coded by two researchers. A coding table was also prepared inductively and deductively in an iterative process (Table 1). In case of the emergence of new codes while analyzing new definitions, the table was expanded continuously. Then, it was reviewed and explored by two other researchers so as to ensure the extraction of the data. Finally, the codes were categorized into meaningful clusters like powerful human workforce.

Phase 2: Field work

Interview with key informants

At the beginning of the field work, the data extracted from the theoretical phase were used for designing questions. In doing so, the data were explored by two researchers and the questions were listed. These questions were then reviewed by two other researchers and the field work was started. According to Schwartz, Barcott, and Kim (2000), field work is a basic element in concept analysis. In concept analysis using the hybrid model, qualitative data are utilized to expand insight regarding the nature of the concept (12). In order to maximize variation in responses in the present study, the samples were purposively selected from experienced ICU nurses working in the hospitals affiliated XXX. Purposive sampling is a common approach in qualitative studies, which provides the opportunity to make use of participants' experiences for understanding the intended phenomena (14). The inclusion criteria of the present study were having worked in an ICU for at least a year, having at least a BSc degree, and being able and willing to express one's viewpoints about autonomy in ICUs.

In order to analyze the concept of autonomy in ICU nurses, semi-structured interviews were conducted with eight nurses with 4-13 years of work experience in the ICUs of the educational hospitals affiliated to XXX. The interviews lasted for 30-60 minutes. The interviews were immediately transcribed and analyzed using the approach proposed by Granheim and Landman. In so doing, the interviews were transcribed and read several times by the research team in order to gain an overall view. The interviews were

considered the analysis unit, while paragraphs, sentences, and even words were regarded as meaning units. The meaning units were coded on the basis of their hidden meanings. The codes were then compared regarding their similarities and differences and were classified into more abstract categories. After all, by comparing and carefully investigating the categories, the hidden contents of the data were introduced as the research theme.

The trustworthiness of the data was assessed using the criteria proposed by Lincoln and Guba. Accordingly, credibility was ensured by selecting a variety of participants in terms of age, sex, and experience. In addition, attempts were made to publish the results in order to guarantee transferability. Moreover, confirmability was determined by clarifying the interviews and making sure about the researcher's impartiality. The results were also evaluated by university professors and faculty members to ensure the appropriateness of the coding process. Finally, an external observer was asked to determine the dependability of the findings.

At the end of the field work, the data obtained from analyzing the interviews were gathered in a table. A sample of the interview analysis has been presented in Table 2.

Phase 3: Analytical stage

Analytical reflection refers to a combination of the data obtained from the theoretical phase and field work, resulting in probable changes in the definition of the concept and its filtration. In this study, the results of the qualitative data were inductively and deductively explored compared to the theoretical data using an iterative process. In this way, the similarities and differences of the two datasets were determined. After all, an integrated table was prepared, which included the antecedents, attributes, and consequences obtained from articles, instruments, books, and interviews. A sample has been presented in Table 4.

Results

The results indicated that the results of field work were mostly in line with those of the theoretical phase. In other words, the basic features of autonomy in ICUs were supported by the field work. The only difference was related to the participants' expression of financial motivation, which was one of the sub-subcategories of the 'mental and personality features' subcategory and the 'powerful human workforce' category in the antecedents of the concept.

Overall, reviewing the related texts and instruments, interviews, and clinical observations revealed the attributes, antecedents, and consequences for identifying the concept of autonomy in ICU nurses, which have been described in details below. It is worth mentioning that this study aimed to explore the information about ICU nurses' autonomy in texts, instruments, and articles in order to start field work.

Antecedents (based on the theoretical phase and field work)

Based on the theoretical stage and field work and integration of the obtained codes using an iterative process, three main themes were achieved from the antecedents(Table3).

1- Powerful human workforce

Powerful human workforce was one of the antecedents of the concept of ICU nurses' autonomy, which consisted of three subcategories; i.e., demographic features, mental and personality features, and having professional competence.

a) Demographic features

This subcategory included such sub-subcategories as sex, age, education level, race, and job tenure.

"Men are more courageous. In my opinion, entrance of educated men in the nursing profession is highly effective. Women are calm, we always appease. If they tell me to do something tomorrow, I will do that. If they tell me to that again, I will. But men are not like this" (P2).

Considering the effective factors in the empowerment of human workforce, another participant maintained:

"Nurses are not independent, which can be associated with a variety of reasons, one of which being related to sex. A large number of nurses are female. They have a low self-confidence or they are not interested in working autonomously or like to be dependent on someone while working. Another reason is age. Those who are younger are inexperienced and do not even think about being autonomous" (P5).

The present study participants emphasized the role of demographic features such as age, sex, education level, and job tenure in ICU nurses' autonomy. In the research carried out by Galbany-Estragues et al. also, participants referred to the impact of sex on nurses' autonomy (15). Similarly, Katja Pursio mentioned knowledge and skills as the factors related to nurses' professional autonomy (16), which represented the key role of demographic features in this concept.

b) Mental and personality features

The second subcategory of powerful human workforce was mental and personality features, which included the following sub-subcategories: having courage, expedition, personal desires, financial motivation, accuracy, interest in working in the ICU, correct interaction, personality growth and maturation, high stress tolerance, humanity, moral regulations, having self-confidence, and self-esteem. Considering the need for courage as an antecedent of autonomy, one of the participants stated:

"Lack of autonomy among nurses may be due to the lack of courage. For example, we have learned to say yes to everything physicians say. When a doctor comes for the clinical round, we are not able to express our opinions. Even when we know that we are right, we are afraid of making mistakes and being teased or considered a lowly educated person" (P1).

Another participant emphasized the necessity for prompt decision-making in interventions:

"Sometimes, we cannot wait for the resident to come due to the patient's condition. We're not responsible for intubation, but I saw several times that the head nurse did the intubation before the arrival of the anesthesia technician. We do this do save patients. However, if physicians come soon, they do their routine tasks" (P3).

Vicki D. Lachman introduced moral courage as a prerequisite for advance in the nursing profession (17). Additionally, Sung Mi-Hae conducted a study in 2011 and revealed a significant relationship between nurses' self-confidence and professional autonomy (18), which confirmed the impact of mental and personality features on ICU nurses' autonomy. However, financial motivation was only mentioned as an antecedent in the field work:

"I work in the ICU and I receive 100 tomans more than the nurse who works in other wards. This difference does not motivate me to work autonomously. If the payment is increased, we will work more efficiently" (P3).

"The nurses who work in private cardiac ICUs receive more. Besides, the system wants them to do a series of tasks, which leads them to feel more autonomous" (P5).

Ruth McDonald disclosed the impact of financial motivation on the quality of care provided by nurses and physicians, but not on nurses' professional autonomy (19). In another research performed by Baljoon in 2018, autonomy was found to be a factor for increasing motivation and decreasing job quit amongst nurses. In other words, autonomy was mentioned as a factor for continuation of working in clinical settings, which was on the contrary to the results obtained in the present investigation (20).

c) Having professional competence

Having professional competence was the last subcategory of powerful human workforce, which included knowledge and performance competence, strong clinical reasoning, competence and skills, professional specialty and skills, ability to judge autonomously, unlimited use of one's knowledge and skills, responsibility and accountability, decision-making capability, building relationships, problem-solving ability, perceived strength in clinical centers, necessity to make decisions and act quickly depending on patients' conditions, interdisciplinary performance, maintenance of professional autonomy in teamwork, having authority for self-assessment, differentiation, and ability to apply knowledge.

One of the study participants discussed the unlimited utilization of knowledge and skills, having the ability to make decisions, expedition, and knowledge competence:

"In my opinion, autonomy implies that nurses have freedom of action and take responsibility for their activities. It means that nurses make decisions on the basis of the knowledge they have gained about their profession without worrying about the occurrence of legal problems" (P1).

Another participant considered the ability to forge effective relationships with colleagues as an influential factor in the maintenance of autonomy:

"I have seen that the nurses who have better relationships with physicians are more trusted by the system, of course if they have the required knowledge" (P1).

It was also found that quick clinical decision-making increased nurses' autonomy in ICUs:

"Patients in ICUs are in worse conditions. Therefore, they need more autonomous, prompt decisions. Besides, the devices are complicated and nurses need some levels of autonomy to work with them" (P7).

The results also indicated that having a specific job description and acting accordingly would lead to professional competence.

"Some duties are mixed up. Nurses do some tasks due to their work conscience, but they will not be able to carry out their own responsibilities. Thus, they become tired and feel that they have to do everything or they have to do the tasks that other people don't do. In fact, there is no clear job description and nurses have to do what they are not responsible for" (P2).

The necessity of teamwork was yet another subcategory of professional competence.

"This is our fault most of the time. We don't believe in ourselves, we don't do what we know is right, and we cause challenge for each other" (P8).

Particular specialties and skills were also found to enhance professional autonomy.

"The more specialist nurses such as respiratory nurses, wound specialists, ICU nurses, and gastroenterology nurses, the higher the professional autonomy will be" (P2).

Considering professional responsibility as a subcategory of professional competence, one of the participants said:

"Nurse should be aware that the patient's life is in their hands. They shouldn't say that care is useless and the patient is dead. I remember a man who was admitted in our ward. His consciousness level was 3, which reached 5 and he left here. Five months later, he came to the ward and said that he remembered our voices" (P3).

Based on the present study findings, ICU nurses have to strengthen their professional competence in order to achieve professional autonomy. In the same line, Weston et al. emphasized the necessity for increasing nurses' clinical competence and developing their decision-making skills in order to promote professional autonomy (21). Katja Pursio also showed the necessity of nurses' individual competencies for achieving autonomy (16).

2) Organizational platform

Considering the antecedents of autonomy among ICU nurses, the second theme was organizational platform that referred to organizational regulations and organizational culture. Organizational regulations and resources included professional support, liability insurance, legal authority, acceptance of nurses' autonomy by insurance companies, opportunity for autonomous decision-making and function, freedom of action and thought, new job description for nurses, tariff setting for nursing services, limited payback, cooperation in policymaking and rule setting, institute's policies, organizational and national laws, legal identification of professional performance boundaries, legal license for autonomy, existence and application of care scales and protocols, and sufficient equipment. The subcategories of organizational culture were overcoming medical sovereignty, leadership style, nursing managers' behaviors, group adaptability, physicians' view towards nurses' autonomy, physicians' trust in nurses, reduction of physicians' monitoring, overcoming medical hegemony, existence of strong managers in the nursing profession, autonomous leadership and management, giving some managerial authorities to nurses without the interference of other treatment team members, defending nurses' proper performance on the part of nursing managers in front of physicians, and other healthcare teams' trust in nurses.

Regarding freedom of action and legal authority, one of the participants maintained:

"In my opinion, autonomy means that a nurse should have freedom of action and make decisions without worrying about the occurrence of legal problems" (P1).

Professional support was also found to enhance ICU nurses' autonomy.

"Fear from the occurrence of legal problems may be a reason for the reduction of autonomy…I do my job accurately, but how much can I count on the head nurse or the matron? How much support will they provide? Will their support be effective?" (P7).

Generally, appropriate in-service training can increase nurses' knowledge competence and, consequently, improve their autonomy. In this respect, one of the participants stated:

"In my opinion, active presence in in-service training and gaining information can be effective…" (P8).

In terms of tariff setting for nursing services, one of the participants said:

"When we don't receive money for the tasks we do, we will not be autonomous" (P2).

"Medical dominance in clinical settings is highly effective in nurses' autonomy. For instance, the hospital manager is a physician. Everything has been defined for physicians…Physicians are even paid for some procedures that have been done by nurses. Under these circumstances, physicians do not let us work autonomously. If financial issues were not a problem, nurses would be paid for what they did, which could consequently enhance their autonomy" (P4).

"Accreditation of nurses requires a defensive force" (P6).

Managers' power was also reported to increase support for nurses, thereby enhancing autonomy in this profession.

"More powerful authorities may provide nurses with more support…" (P2).

In line with the present study, Ulrich revealed the direct impact of organizational factors and regulations on nurses' autonomy (22).

3. Society's sociocultural platform

This category included social and individual views towards the profession, equity among the treatment team members, valuing autonomous performance, workplace (urban/rural, clinic/hospital), and cultural, social, political, economic, religious, and traditional factors.

Considering the effect of workplace on nurses' autonomy, one of the participants maintained:

"Nurses sometimes take tests for each other. They may not have sufficient motivation or the hospital environment may have convinced them that there is no difference between having and not having knowledge" (P1).

Regarding the social view and impact of culture, one of the participants said:

"Our major was long among the low-level occupations. Of course, people have a better view towards the profession nowadays, but they still consider us as mere service providers. Nothing more is expected from us and, as a result, we don't try to be autonomous" (P6).

In the present study, the nurses discussed the negative effect of culture on autonomy. In contrast, Ingrid Hanssen mentioned autonomy and freedom as the inseparable elements of reasoning as well as the natural components of maturity in the western culture. In other words, the ideal western autonomy is a part of the cultural heritage.

Regarding the lack of equity between nurses and physicians, one of the study participants mentioned:

"We are not independent. There is not equity between us and physicians. If we were considered at an equal level to physicians and were valued as much, we could make decisions more easily and work autonomously" (P4).

The abovementioned participant referred to the lack of equity between physicians and nurses as a factor preventing nurses from achieving professional autonomy. Consistently, Evanthia Georgiou conducted a study in Cyprus and reported a low level of cooperation between nurses and physicians in terms of patient care as well as a moderate level of autonomy amongst nurses (23). Furthermore, Daniel Salhani pointed to the negative effects of political, economic, religious, and traditional factors, but none of the participants mentioned these factors in clinical settings (24).

Attributes (based on the theoretical phase and field work)

Based on the theoretical phase and field work, two main themes; i.e., professionalism and personal capabilities, were the attributes of the concept of autonomy in ICU nurses.

1- Professionalism

The subcategories of this attribute were professional autonomy, professional skills, scientific performance, knowledge, value, commitment, accountability for one's responsibilities, adherence to moral issues, legal privileges, and controlling adherence to the regulations of the profession.

With respect to the importance of professional knowledge and attitude and the need for deep professional knowledge in this theme, one of the participants stated:

"From my perspective, the most important point is that we should learn and believe in our lessons. Sometimes, nurses have learned something, but they don't believe in it or they may have memorized the lesson…" (P2).

Similarly, Marla J. Weston and Gail Holland Wade revealed the necessity of educational and skill competencies in nurses, which led to their professional autonomy (21, 25).

Accountability for one's responsibilities was yet another category extracted from professionalism.

"If the physicians did the right task and received income and I did the right task and received income, they would be responsible for their tasks and I would be responsible for mine" (P2).

Gilmore, as cited by Nouri, also emphasized autonomy alongside accountability as the prerequisite for professional nursing performance (26).

2- Personal capabilities

This theme involved critical thinking, responsibility, decision-making, and autonomous performance. One of the participants believed that lack of decision-making and independent performance would be accompanied by the lack of autonomy:

"When I work in a place where I know that I have some authorities and I don't have to obey others, I will have a higher level of motivation, I will feel more responsible, I will try to keep up-to-date, because I know that I have to make decisions. However, when the physician is the one who makes decisions, I say to myself that we will do whatever the physician says in case of problems; the physician is responsible in any event" (P2).

"Nurses should make decisions for patients irrespective of the routines and physicians' orders. They should provide patients with the best healthcare depending on the conditions and take responsibility for what they have done. They should do this according to the knowledge they have gained" (P8).

The present study findings revealed responsibility as one of the attributes of autonomy amongst ICU nurses. Katerina also disclosed that a high level of accountability, responsibility, and autonomy was required in ICUs in order to optimize patients' outcomes (27).

Consequences (based on the theoretical phase and field work)

Based on the theoretical stage and field work, four main themes were obtained regarding the consequences of ICU nurses' autonomy.

1- Increased personal competency

The consequences of autonomy in ICUs included increased responsibility, credit, motivation to continue education, implementation of creative ideas, performance of research activities, promotion of clinical judgement, and critical thinking. In this regard, one of the participants stated:

"If we can act autonomously, we will definitely have a higher level of motivation to improve our information and even continue our education, because we know that we will be able to act autonomously in case of having a higher level of knowledge" (P6).

Increased motivation for continuing education and working in the profession has also been expressed in the book titled "Autonomy and Empowerment of Advanced Practice Nurses in New Mexico" as well as in the study carried out by Riitta-Liisa Lakanmaa (28, 29). Polly et al. also conducted a study in 2017 and indicated individual capabilities as a consequence of nurses' autonomy (30). In the same vein, Motamed-Jahromi demonstrated that increased responsibility was one of the consequences of nurses' autonomy (31). Increased decision-making power and critical thinking were other consequences mentioned by Stewart in 2004 (32).

2- Promotion of care quality

Autonomy was found to enhance the quality of patient care. In this regard, one of the participants said:

"If we are autonomous, we have our own care protocols and we know what to do with patients without waiting for the physician. This is good for patient safety, as well" (P2).

Promoted care quality was one of the basic consequences of autonomy among ICU nurses, which has been confirmed in numerous studies(25-28, 31-33). Moreover, autonomy was found to reduce the costs as well as the length of hospital stay.

"Hospital-acquired infections will decrease and lower costs will be imposed on patients. It will also be beneficial for patients in terms of safety. In my opinion, it will be most beneficial for patients" (P6).

"Experienced individuals do many tasks independently. They do something, which is exactly ordered by physicians. This accelerates the process of patient care. Overall, it increases patient safety and accelerates the care process" (P3).

Reduction of the length of hospital stay and costs was another important consequence, which was mentioned by Polly in 2012, as well (28).

3- Improvement of the view towards the profession

In this respect, one of the participants maintained:

"It is important to have approved protocols. I sometimes feel that even the protocols coming from the Treatment Deputy are old and that is why physicians do not accept them. If they know that our protocols are up-to-date, they will accept them to be used in clinical settings, which will be effective in improving the view towards the nursing profession" (P2).

Many researchers have also argued that professionalism, specialism, and socialism could promote the view towards the nursing profession (34-36).

4- Organizational consequences

This theme included the facilitation of healthcare provision, increased adherence to guidelines and protocols, increased knowledge-based performance, and effective leadership.

In terms of knowledge-based performance and adherence to protocols, one of the study participants said:

"If nurses are autonomous, they will be motivated to perform more efficiently based on protocols. In this way, they will try to learn accurately and will be able to provide more professional care services" (P7).

In agreement with the present study findings, Nouri, Tao, and Carolyn Elaine Disher indicated that commitment to the profession and the organization resulted in higher adherence to regulations, as a consequence of nurses' autonomy (7, 26, 37). Tume also reported the increased adherence to guidelines and protocols as an important consequence of nurses' autonomy (38). Increased knowledge and experience was yet another organizational consequence disclosed by Baykara in Turkey (39). On the other hand, Panunto introduced lack of autonomy as a factor in nurses' non-adherence to the profession (40).

Analytical reflection (based on the analytical phase)

Comparison of the concept of autonomy in the articles to that described by the key informants in the experimental phase indicated that the only difference between the data obtained from the field work and the theoretical phase was related to financial motivation. This was related to the mental and personality features, as one of the attributes, which was mentioned in the clinical setting, but was not found to be among the antecedents of nurses' autonomy in the explored articles and texts. Furthermore, the negative effects of political, economic, religious, and traditional factors related to the society's sociocultural platform were among the antecedents expressed in the articles, while they were not emphasized in the clinical setting. The integrated overview of the antecedents, attributes, and consequences of this concept has been presented in Table 1.

Discussion

The present study findings provided an overview of the concept of nurses' autonomy in ICUs after reviewing texts, articles, instruments, and nurses' perceptions based on their lived experiences. Clarification of the attributes of nurses' autonomy in ICUs can help develop this concept in the health systems and promote nurses' professional identity (41).

In the current research, the antecedents of the concept of nurses' autonomy in ICUs were powerful human workforce, organizational platform, and the society's sociocultural platform. Based on the results, having specific demographic features, mental and personality characteristics, and professional competence could result in having powerful human workforce, thereby promoting autonomy among ICU nurses. In the same line, Schutzenhofer revealed a significant relationship between nurses' autonomy and nursing education, clinical specialty, functional role, membership in professional organizations, gender stereotypes, and personality (42). Sung et al. also showed that mental and personality characteristics such as professional self-concept and self-esteem were positively correlated to professional autonomy and job satisfaction amongst nurses (18). In the research carried out by Iliopoulou et al., young nurses presented a lower level of autonomy. Additionally, female nurses were more autonomous, which was on the contrary to the present study findings (27). Labrague et al. also performed a study in 2019 and demonstrated that age, work experience, and education level were the effective variables in nurses' autonomy. Accordingly, experienced nurses gained higher scores of autonomy (5). In the research performed by Amini et al. in 2015, male nurses and those aged 30-40 years showed considerably higher autonomy compared to females and other age groups (43).

Another antecedent of autonomy was professional competence, which involved the ability to build effective relationships with other treatment team members. Similarly, Maylone et al. stated that teamwork and cooperation between nurses and physicians were necessary to reach professional autonomy, which could eventually strengthen patients' outcomes, increase their safety, and promote the care quality (44). In addition, having sufficient knowledge and technical experience were among the prerequisites for professional autonomy, as mentioned in the nurses' autonomy instrument (45). The other antecedents obtained in the current study were organizational platform and sociocultural platform. Considering the diversity of cultures around the world, Kuwano et al. argued that the incorporation of the transcultural nursing content in educational curricula in universities and hospitals could enhance cross-cultural sensitivity and improve nurses' professional autonomy (46). Generally, organizational variables such as assigning a large number of patients to each nurse, variety of hospitals, shortage of staff, and organizational policies and regulations can restrict nurses' autonomy (5). Organizational platform was also one of the antecedents of this concept in the current investigation. Consistently, Allahbakhshian et al. indicated that nurses were encountered with two main barriers for achieving professional competence: profession-related and organization-related barriers. The obstacles related to the profession included the inability to apply professional autonomy and lack of professional nursing organizations such as nursing associations for professionally directing the nursing profession. The organizational barriers included role conflicts, unsupported workplace, and lack of support and encouragement on the part of managers (47).

In the current study, the attributes of the concept of autonomy in ICU nurses were professionalism and individual capabilities such as critical thinking, responsibility, decision-making, and autonomous performance. Considering professionalism, Iliopoulou stated that education, role empowerment, and support were required for ICU nurses to achieve their maximum professional potential (27). In the present study also, professional competence including the need for increased knowledge and skills was one of the important antecedents.

The consequences obtained from theoretical and practical concept analysis in the present research included increased personal competence, improved care quality, organizational consequences, and professional consequences. In the same line, Labrague showed the positive impact of autonomy on organizational commitment, job satisfaction, and performance (5).

Overall, combination of the data obtained from the theoretical phase and field work and their analysis resulted in the emergence of three main categories, namely antecedents, attributes, and consequences, of autonomy among ICU nurses, which can be presented to health managers and policymakers.

Relevance to clinical practice

Providing the obtained results to the nurses working in ICUs, managers, and health policymakers can help value and strengthen the concept of nurses' autonomy in ICUs, improve professional identity, increase job satisfaction, improve patient outcomes, and facilitate further research in this field.

Limitations

The quality of the articles was not evaluated in this study, because it aimed to investigate all the related studies in the theoretical phase. As another study limitation, the field work was ended with a small number of participants due to reaching the data saturation point.

Conclusion

This study aimed to analyze the concept of nurses' autonomy in ICUs by describing its antecedents (powerful human workforce, organizational platform, and society's sociocultural platform), attributes (professionalism and personal capabilities), and consequences (increased personal competence, improved care quality, improved view towards the profession, and improved outcomes) using a hybrid model.

Abbreviations

ICU: Intensive Care Unit

COREQ checklist: COnsolidated criteria for REporting Qualitative research

Declarations

Ethics approval and consent to participate

After approval of the proposal by the Ethics Committee in Biomedical Research of Isfahan university of medical sciences (IR.MUI.RESEARCH.REC.1399.252), the necessary permissions were gained from the authorities of School of Nursing and Midwifery as well as from those of the health centers affiliated to Isfahan universitiy of medical sciences. After introducing oneself to the unit leaders and expressing the research objectives, the researcher asked for their permission to collect data with written informed consent.

Consent for publication

Not applicable

Availability of data and materials

The datasets are available from the corresponding author on reasonable request.

Competing interests

No Competing interests

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Author contributions

RD, FT, MB, SHM, MM were involved in study conception, design and drafting of the manuscript. RD wrote the first draft of the manuscript. FT reviewed the first draft of the manuscript. FT was responsible for coordinating the study. All authors read and approved the final manuscript.

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Tables

Table 1. A sample of data extraction

Row		
Title	Nurses' lived experiences of professional autonomy	
Author and year	Elahe Setoodegan et al., 2019	
Journal (issue, number)	International Journal of Nursing Sciences	
Research approach	Quantitative	
	Qualitative *	
Research strategy	Phenomenology	
Paradigm, theoretical framework	Descriptive	
Target population	Nurses, head nurses, supervisors, nursing managers	
Sampling method and sample size	Purposive, 12 nurses (9 females, 3 males)	
Participants' involvement	Informed consent	
Data collection instruments	Semi-structured interview (14), experiences of professional autonomy	
Measurement process (instrument validity, the responsible individual for completion)	Credibility, dependability, transformability, and confirmability	
Data analysis techniques	Van Manen's six-step approach	
Research location	Shiraz	
Concept details	Definition	Autonomy is an abstract complicated concept, using which individuals gain the ability for informed, independent decision-making in order achieve the desirable outcome.
	Boundary concepts	Individual autonomy
	Antecedent	Supporting patients and nurses (supporting their rights), autonomy in workplace, cooperation in professional decision-making, and professional accountability.
Results	Attribute	Having an appropriate level of knowledge and education, critical thinking, clinical decision-making, freedom of action.
	Consequence	Improvement of care quality, ability to act autonomously, ability to control the professional environment, cooperation with the treatment team for patient care, responsiveness for activities.

Table 2. Interview analysis

Participant	Definition	Attribute	Barriers	Accelerators	Consequences
2	Acting autonomously in a particular knowledge framework, having an independent income	Responsiveness for one's duties	Dependability of income on the physician Not having an independent income Not having a specific job description appropriated to the clinical setting Ambiguity of the job description Inaccurate job description as a means of misuse for physicians Nurse's unprofessional performance Nurse as the Jack of all trades in the health system Doing unprofessional affairs and not being able to carry out the main responsibilities Lack of time High workload Obligation to do time-consuming unprofessional tasks Attention to medical education rather than nursing care	Giving some managerial authorities to the nurse without the interference of other treatment team members Nurturing nurses for specialized care Increasing professional autonomy Defining job description for specialized nurses Male gender Having courage Existence of strong managers in the nursing profession Defending nurses' proper performance on the part of nursing managers in front of physicians	Increased motivation Increased nursing knowledge Increased care quality Improved social view Other treatment team members' respect for nurses' authorities Enhanced patient care quality Increased client safety Acceleration of the treatment process Increased patient comfort Reduced costs Reduced length of hospital stay

	education in continuous training Increasing nurses' medical knowledge for better treatment rather than better nursing care More attention to marginal issues rather than care Immersion in ward routines Not having a strong professional organization as a barrier against a legal, powerful supporter Lack of workforce Medical hegemony

Table 3. A sample of integration of the data obtained in phases 1 and 2

Antecedent		
Category	**Subcategory**	**Sub-subcategory**
Powerful human workforce	Demographic features	Sex, age, education level, race, job tenure
	Mental and personality features	Having courage, expedition, personal desires, financial motivation, accuracy, interest in working in the ICU, correct interaction, personality growth and maturation, high stress tolerance, humanity, moral regulations, having self-confidence, self-esteem
	Professional competence	Knowledge and performance competence, strong clinical reasoning, competence and skills, professional specialty and skills, ability to judge autonomously, unlimited use of one's knowledge and skills, responsibility and accountability, decision-making capability, building relationships, problem-solving ability, perceived strength in clinical centers, necessity to make decisions and act quickly depending on patients' conditions such as acute care experience, interdisciplinary performance, maintenance of professional autonomy in teamwork, having authority for self-assessment, differentiation, ability to apply knowledge.

Table 4. The integrated view of the antecedents, attributes, and consequences of the concept

Antecedent	1- Powerful human workforce a) Demographic features b) Mental and personality features c) Having professional competence 2- Organizational platform 3- Sociocultural platform
Attribute	1- Professionalism 2- Personal capability
Consequence	1- Increase of personal competencies 2- Promotion of care quality 3- Improvement of attitude towards the profession 4- Professional outcomes

Figures

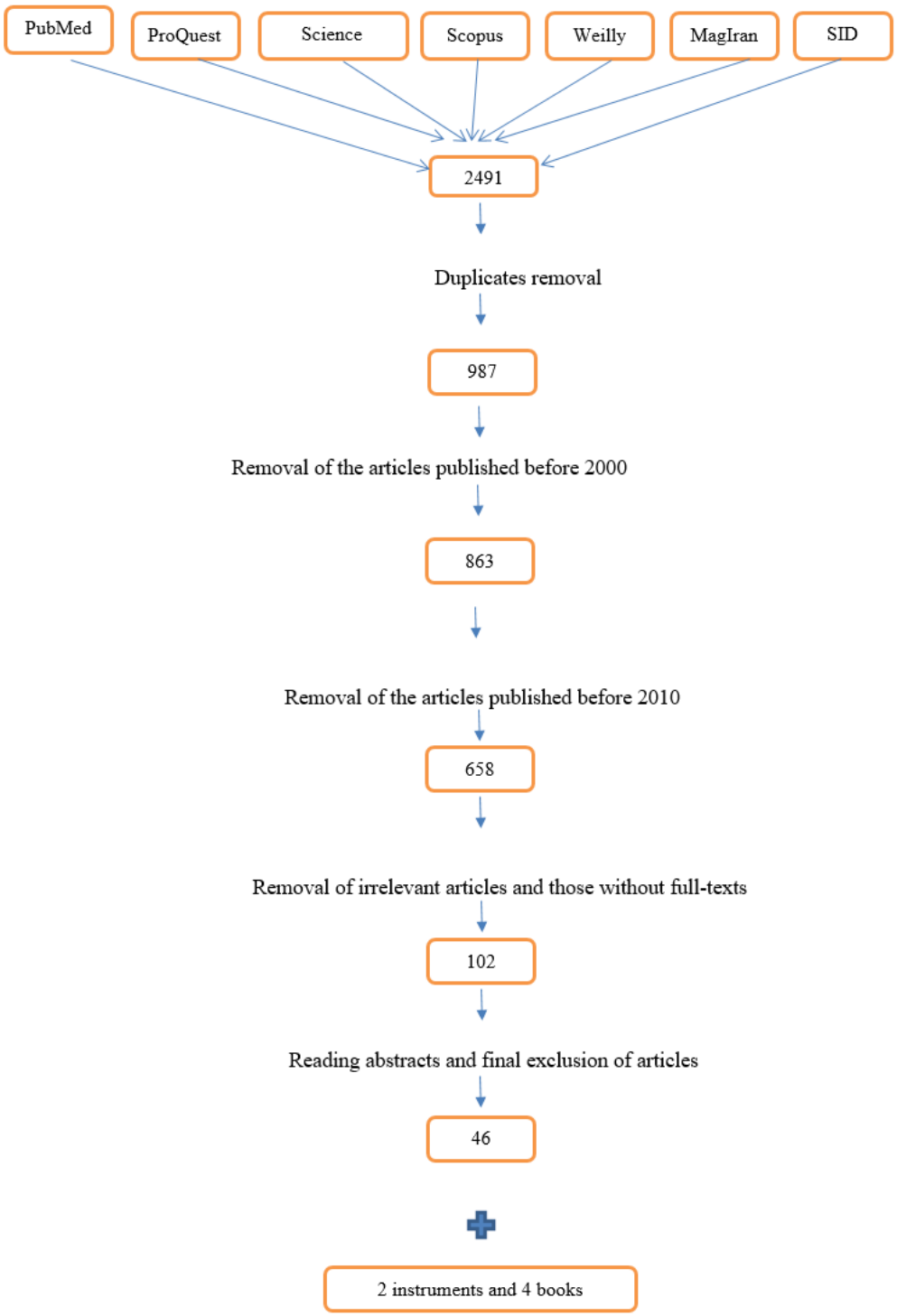

Figure 1

The search strategy

Supplementary Files

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