

RESEARCH

Open Access



Nursing students' metaphorical perceptions of professional communication and the concept of nursing in their first clinical practice: qualitative research

Ayşegül Yıldız İçigen^{1*} and Sinem Sönmez¹

Abstract

Background Nursing education combines theoretical knowledge and clinical practice to prepare nursing students to meet the evolving demands of healthcare services. Understanding nursing students' metaphorical perceptions of the nursing profession and professional communication during their first clinical experiences can provide valuable insights into their professional identity and communication skills, as well as giving information about necessary improvements in nursing education. This study aimed to reveal the metaphorical perceptions of nursing students regarding the concepts of professional communication and nursing during their first clinical practices.

Methods The study was conducted using a phenomenological design, a qualitative research method. A "student information form" and a "metaphor form," developed by the researchers, were used as data collection tools. Participants' sociodemographic data were analyzed on the Statistical Package for Social Sciences (SPSS). The analysis and evaluation of the metaphors used by nursing students for the concepts of nursing and professional communication were carried out in five stages by following the characteristics outlined in the qualitative data analysis approach called Metaphor Analysis. The Consolidated Criteria for Reporting Qualitative Research (COREQ) checklist was followed in the study.

Results All 45 participants in the study were first-year nursing students, with 81.0% being female and the average age being 19.88 ± 0.96 years. Of the participants, 66.7% had chosen the nursing department willingly, and 57.1% had preferred it due to job opportunities. Participants generated 35 metaphors for the nursing profession, which were categorized into four groups, and 32 metaphors related to professional communication, which were classified into six groups.

Conclusion The metaphorical perceptions of nursing students during their first clinical practices provided profound insights into how they experienced professional communication and the nursing profession. These metaphors are of great importance in understanding the challenges, the skills gained, and the emotional responses encountered during the students' professional development processes.

*Correspondence:
Ayşegül Yıldız İçigen
aysegul.yildiz@kapadokya.edu.tr

Full list of author information is available at the end of the article



© The Author(s) 2024, corrected publication 2025. **Open Access** This article is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License, which permits any non-commercial use, sharing, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if you modified the licensed material. You do not have permission under this licence to share adapted material derived from this article or parts of it. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by-nc-nd/4.0/>.

Keywords Communication, Health occupations, Nursing faculty practice, Nursing student

Introduction

The nursing profession is continuously evolving to meet the diverse healthcare needs that people demand [1]. It is crucial that nursing students, who will eventually perform this profession, graduate with the necessary qualifications to provide high-quality care that meets the current demands of healthcare services [2]. The process of nursing education presents a significant opportunity to build a strong nursing workforce, encourage nurses' involvement in decision-making processes, develop leadership and management roles in nurses, and enhance their nursing skills. Therefore, it is necessary to evaluate nursing students' gains during their education and implement additional interventions in cases where the desired development is not achieved.

Ensuring and maintaining the quality of nursing education helps students understand the value of the nursing profession and recognize the importance of professionalism in nursing practice and education [3]. Some studies on the examination of nursing students' perceptions of the concept of nursing have shown that students' perceptions can be either positive [4, 5] or negative [6], depending on their school year or the department where they do the clinical practice. For this reason, it is important to assess the perceptions of first-year students, who have just been introduced to the nursing profession, about nursing and professional communication. In Türkiye, undergraduate nursing students are generally introduced to the concept of nursing through the "introduction to nursing" course in the first semester of the first year. They begin to acquire knowledge, skills, and experience through the "fundamentals of nursing" course, which allows them to enter the nursing field. Subsequently, they start clinical practice and try to transfer the knowledge, concepts, skills, and experiences they gained at university to the clinical environment. Developing positive perceptions of the profession as early as the first year may be an important step in the process of gaining professional identity.

A metaphor is an effective linguistic tool that helps us understand an individual's insights, feelings, and thoughts about any concept [7]. Therefore, an examination of metaphors can help discover how nursing-related concepts are perceived and what they evoke in students' minds. Moreover, during the nursing education process, students practicing the profession provide an objective, unbiased, and realistic perspective based on their personal experiences [5]. Nursing education integrates both theoretical and practical elements to help students acquire the necessary knowledge, skills, and attitudes [8, 9]. The practical component, often referred to as clinical

practice, makes up the fundamentals of undergraduate nursing programs. Clinical practice allows students to learn in a laboratory setting and adopt the role models created by academic nurses in hospital settings, which are their natural environments [10]. In this sense, clinical practice acts as a bridge between school and clinical field. During this transition from theoretical learning to clinical practice, nursing students often encounter discrepancies between their expectations and the real hospital environment, a phenomenon known as "reality shock" [11].

In clinical practice, nursing students face various challenges and stress factors, such as adapting to clinical routines, feeling isolated, fearing making mistakes, and dealing with communication issues with both instructors and clinical staff [12, 13]. Throughout this experience, they observe nurses, collaborate with them, and witness their interactions with patients firsthand. During this process, nursing students begin to gain some insights into the concepts they have been theoretically trained in.

Examining the metaphorical perceptions of nursing students during their first clinical practices will provide insights into how they internalize the concept of nursing and how they experience professional communication. It will also offer valuable information for enhancing the quality of education and supporting the development of students' professional identities. Thus, strengthening both the theoretical and practical aspects of nursing education will create the potential to contribute to the provision of high-quality patient care.

This study aimed to examine nursing students' experiences, professional communication, and perceptions of nursing through a metaphorical lens during their clinical practices.

Method

Design

A descriptive qualitative phenomenological research design, one of the qualitative research methods, was employed. The study adhered to the Consolidated Criteria for Reporting Qualitative Research (COREQ) checklist [14].

Research questions

- What metaphors do nursing students use regarding the concept of nursing?
- What metaphors do nursing students use regarding professional communication?

Sample selection

The population of the study consisted of first-year nursing students doing Cappadocia University simulation-based practice laboratory during the 2023–2024 academic year ($N=45$). The purposive sampling method was used. First-year nursing students were invited to participate in the study and all agreed to participate ($n=45$).

The inclusion criteria for participation in the study were as follows: (i) enrollment as a first-year student, (ii) fluency in Turkish, and (iii) first-time engagement in clinical practice. The students that have previously completed the clinical practice period were not included in the study.

Data collection

The data collection process involved the exploration of metaphors a commonly used method to describe and understand experiences and perceptions. The purpose of this approach was to gain in-depth knowledge about how individuals perceived the concepts of professional communication and nursing through metaphors and the meanings they attributed to these metaphors [15]. The data were collected using a “student information form” and a “metaphor form,” both developed by the researchers based on the literature [7, 14]. The student information form consisted of seven questions designed to assess students’ gender, age, marital status, whether they had chosen the profession willingly, factors influencing their career choice, whether they liked the profession, and their self-assessment of communication skills. The metaphor form explained the concept of metaphor, provided examples to concretize the concept, and asked students to complete some sentences such as “Nursing is like. because.” and “Professional communication is like. because.”

Participants were given the metaphor form and instructed to complete it fully by creating metaphors that reflected their thoughts on the concepts of nursing and professional communication. No further guidance was provided on creating the metaphors. The form included information about the purpose of the study, how the data would be used, and an explanation of the metaphor concept. Students were given 15 min to reflect on the concepts of nursing and professional communication and to create their own metaphors. These forms, which were filled out by the students, served as the primary data source for the study. Data were collected face to face in the simulation-based learning practice laboratory at Cappadocia University between June 17 and 21, 2024.

Data analysis

The sociodemographic data of the participants were analyzed on the Statistical Package for the Social Sciences (SPSS) software. Descriptive analyses were used

to evaluate the quantitative data related to participants’ characteristics. The analysis and evaluation of the metaphors created by nursing students for the concepts of nursing and professional communication were carried out in five stages, following the qualitative data analysis approach called “Metaphor Analysis”. This analysis method is inspired by Moser (2000) and drawing upon various sources for methodological guidance [16–18]. The codes obtained from the data were visualized as a code cloud on a website (<https://wordart.com/create>).

The steps followed in the metaphor analysis are outlined below:

Coding and ordering stage At this stage, the metaphors produced by the students were reviewed by both researchers. The metaphors were listed, and a temporary file was created. Metaphors related to the concept of nursing were coded with labels, such as “tree of life,” “street lamp,” and “spine.” Metaphors related to professional communication were coded with labels such as “garden” and “rudder.” Forms containing expressions that could not be accepted as metaphors ($n=3$) were excluded from the analysis.

Example metaphor image review stage The metaphors created by the students were listed with color markings, and the raw data were examined. “Example metaphors,” such as ..., representing each metaphor were selected.

Category development stage At this stage, valid metaphors such as ..., were examined in terms of common characteristics. The valid metaphors were analyzed based on their topics, origins, and relationships, and were categorized accordingly. Each metaphor was associated with a theme related to the common features of the concepts of nursing and professional communication and then was analyzed and categorized under different conceptual categories.

Validity and reliability stage Establishing validity in qualitative studies requires presenting the research process in detail. Therefore, the data analysis was explained in detail. The authors conducted the data analysis independently for the metaphor analysis, and coding was done by both researchers. After discussing the findings and reaching a consensus, uncertainties were resolved, and expert opinions were obtained from three faculty members specialized in nursing. The metaphors and categories were finalized based on expert feedback. As part of the data analysis process, example metaphor expressions were reviewed and presented in the [findings](#) section as quotes from the students’ statements. The metaphors and categories were transferred to a computer file, and frequency (f) values were calculated. Intercoder reliability was estimated using Miles and Huberman’s (1994) formula and

Table 1 Distribution of participants' descriptive characteristics

Variables	Mean ± SD	
Age	19.88 ± 0.96	
Whether the nursing program was chosen willingly		
Yes	28	66.7
No	14	33.3
Factors for choosing the profession		
Family effect	8	19.0
Knowledge of the profession	10	23.8
Job opportunities	24	57.1
Liking the nursing profession		
Yes	37	88.1
No	5	11.9
How would you rate your communication skills?		
Good	19	45.2
Moderate	22	52.4
Poor	1	2.4

Table 2 Categories created from the metaphors developed by the students about the concept of professional communication and nursing profession

Nursing Profession			Professional Communication		
Category	Metaphors	Frequency	Category	Metaphors	Frequency
Indispensability of the nursing profession	Tree of life, life, pacemaker, national economy, cotton thread sun, money	7	Sensitivity in Professional Communication	Garden, conflict, book (2), bird	5
Guiding aspect of nursing profession	Rainbow, family (3), street lamp, light, medicine, compass, mother (8)	16	Self-development in Professional Communication	Notebook, glass of water, work of art, sea, rudder, book	6
The art aspect of nursing profession	Drawing, painting, doing sports	3	Achieving Reality in Professional Communication	Tree branches, wave at sea, navigation, flashlight	4
Autonomy of the nursing profession	Heaven-Hell, rose, spine(2), water (4), river	9	Respect in Professional Communication	Family communication (3), computer, trust, blind	6
Total		35	The Indispensability of Professional Communication	Foundation of the building, light, love, knot, water, food, eating, heart, giving water to a dry tree	8
			Common Language in Professional Communication	Pomegranate, rosary, politics	3
			Total		32

was found to be 92% [19]. Since this value exceeded the 70% threshold, the reliability of the study was considered satisfactory.

Ethical considerations

Before the study was initiated, the approval of the Cappadocia University Non-Invasive Research Ethics Committee was obtained (Decision No: 24.11, Date: 10.06.2024). After receiving ethical approval, participants were informed about the research, and their informed consent was obtained on the data collection date. Participation in the study was voluntary. Students were informed by the researchers prior to the interviews that they had additional opportunities to consent or withdraw from the study. Data collection documents were numbered,

participants' anonymity was ensured, and the documents were stored in a locked cabinet at Cappadocia University.

Findings

All the participants in the study were first-year nursing students with an average age of 19.88 ± 0.96 years. Of the nursing students, 66.7% had chosen the nursing program willingly, and 57.1% had preferred the program due to job opportunities (Table 1). Metaphorical data in the study were reported under two main headings: the concept of nursing and the concept of professional communication (Table 2).

The concept of nursing

Upon examining the metaphors created by the participants regarding the concept of nursing, four categories

Examples of metaphorical expressions created by students for this category are provided below:

“Professional communication is like family communication because it is shaped by respect and love.” (S28).

“Professional communication is like a computer because just as the speed of a computer does not vary from person to person, nor does professional communication in nursing.” (S4).

“Professional communication is like a bridge because it connects people.” (S29).

Category 5: the indispensability of professional communication

In this category, students described professional communication as a necessity for carrying out the nursing process and facilitating interactions between members of the nursing profession. Examples of metaphorical expressions created by students for this category are provided below:

“Professional communication is like the foundation of a building because a building cannot stand without it.” (S9).

“Professional communication is like love because it is a part of life.” (S16).

“Professional communication is like a tight knot because if communication is not strong, the knot will come undone.” (S17).

“Professional communication is like watering a dry tree because a tree that doesn't get water won't bear fruit.” (S42).

Category 6: common language in professional communication

In this category, students emphasized that although nurses had different characteristics, they could achieve mutual understanding by using written and verbal communication techniques through professional communication. Examples of metaphorical expressions created by students for this category are provided below:

“Professional communication is like a pomegranate because from the outside, it looks like one thing, but when you open it, you see different ideas inside that come together at a common point.” (S43).

“Professional communication is like politics because you need to know what to say and where to say it.” (S18).

“Professional communication is like prayer beads because if they get tangled, they break.” (S20).

Discussion

This study revealed nursing students' metaphorical perceptions of professional communication and the concept of nursing in clinical practice. The findings emphasized significant characteristics of the nursing profession, such as its indispensability, guidance, artistic aspects, and autonomy, while highlighting categories like sensitivity in professional communication, self-improvement, pursuit of truth, respect, the indispensability of communication, and the necessity for a common language. Nursing students created metaphors related to the nursing profession, such as mother, family, water, and painting, thereby fostering a positive outlook toward the concept of nursing. Similarly, other studies in the literature indicated that nursing students had a favorable view of the nursing profession [5, 7, 21].

Under the category of the indispensability of the nursing profession, it was observed that students perceived nursing as a critical element for human life. The nursing profession has always had a vital importance in addressing the changing needs of individuals and patient care from the past to the present [15]. Particularly, with the global impact of the pandemic, the indispensability of the nursing profession has become more pronounced, leading to an increase in its visibility [20]. The literature contains numerous studies that emphasize the indispensability of the nursing profession [5, 7, 22, 23]. The research findings align with existing literature, suggesting that nursing students begin to internalize the concept of nursing during their first clinical practice training. Students stated that the nursing profession played a guiding role, presenting nursing as an element that guides patient care. Nurses utilize guidance, counseling, and direction roles under changing conditions, in various environments, and during crises [24–26]. The emphasis placed by students on the guiding aspect of nursing may stem from their observations of nurses' communication with patients, patient education, treatment processes, and other nursing practices during clinical practice training.

Students also used metaphors about professional communication, such as garden, rudder, navigation, intra-family communication, the foundation of a building, and pomegranate. All these metaphors demonstrate that nursing students hold a positive perspective on professional communication, which is essential for the nursing profession. Nurses maintain nursing care through continuous communication and interaction with other professional groups and colleagues [10]. Therefore, it is crucial to equip nursing students with professional communication skills during their education, and it is expected that students enhance and experience their communication skills during clinical practice training [12]. The metaphors created by nursing students under the categories of sensitivity, self-improvement, and pursuit of truth in

professional communication indicated that they viewed communication as a critical tool for both personal and professional development. This situation aligns with studies highlighting the importance of developing communication skills during clinical practice for nursing students [9, 27, 28].

The metaphors nursing students used regarding sensitivity in professional communication were similar to those in the study conducted by Işık et al. (2023), which emphasized the need for nursing students to develop empathy and sensitivity skills [7]. Given the metaphors created by nursing students about professional communication, it has been emphasized that for professional communication to be maintained effectively, nurses must continue to develop themselves, establish trust-based and respectful communication between nurse-patient and nurse-nurse, and utilize a common language within a professional framework. The concepts highlighted by nursing students in the current study are also mentioned in a review about competency expected from nursing students by Purabdollah et al. (2023) [29]. The perceptions of nursing students regarding professional communication were consistent with the competencies expected from nursing graduates [8]. This suggests that nursing students gain experiences that help them understand the importance of professional communication during clinical practices.

Strengths and limitations of the study

One of the significant strengths of this study was the innovative use of metaphors to examine nursing students' perceptions of professional communication and the concept of nursing. This method provided qualitative insights that allowed for a deeper understanding of students' emotional connections to their professional identities and roles. The metaphorical content analysis conducted with well-defined categories enhanced the reliability of the data. Although the sample size was limited to a single university, it increased the internal validity of the study as it encompassed the entire population of first-year students. Furthermore, the phenomenological design facilitated eliciting students' experiences during their first clinical applications, proving beneficial in understanding their early thoughts and emotional responses.

The high inter-coder reliability rate (92%) further solidified the consistency of data analysis. On the other hand, the study had several limitations. For example, it focused on a single academic institution, which was likely to restrict the generalizability of the findings. The cultural and educational context of Cappadocia University may not have fully reflected the experiences of nursing students from other regions or institutions. Additionally, since the study was based on self-reported data, there

was a possibility of social desirability bias, where students may have provided socially acceptable responses.

Implications for future applications and research

The findings of this study underline the importance of metaphorical and reflective thinking in the teaching of professional communication and identity in nursing education. These insights can be utilized in the design of educational programs that encompass the guiding, autonomous, and artistic dimensions of nursing, as well as its practical and clinical aspects. Curricula that prioritize communication skills can help nursing students recognize the vital role of professional communication in daily practices through simulations or role-playing activities at the university's simulation-based learning environment.

Conclusion

This study further underscores the critical role of nursing education in shaping students' perceptions of professional identity and roles. Clinical practices represent a significant learning process where nursing students transform their theoretical knowledge into practice and embody their professional roles. The challenges faced by students during this process and the coping strategies they use significantly contribute to their professional development.

Nursing students' metaphorical perceptions of their first clinical applications provide profound insights into how they experience professional communication and the nursing profession. These metaphors hold great importance in understanding the challenges faced, skills acquired, and emotional responses encountered by students in their professional development processes. The use of metaphors to comprehend nursing students' perceptions of professional communication and the concept of nursing offers an opportunity to conduct an in-depth analysis of the student perspective. This innovation facilitates the exploration of students' professional identities and emotional ties.

Nursing students' metaphorical perceptions of sensitivity, self-improvement, and the pursuit of truth in professional communication reveal that the nursing profession encompasses not only technical knowledge but also emotional and ethical dimensions. This situation reiterates the necessity of clinical experiences in nursing education. Nursing educators can better guide students' clinical experiences by considering these metaphorical perceptions and strengthen their professional commitment.

The findings of this study highlight the necessity of integrating metaphorical and reflective thinking approaches into nursing education. These approaches can be utilized to deepen students' understanding of professional identity and the multidimensional nature of the

nursing profession. Nursing curricula should emphasize not only the development of technical skills but also the enhancement of emotional intelligence, ethical reasoning, and professional communication skills.

Future research should explore how metaphorical perceptions evolve over the course of nursing education and how targeted interventions can further enhance students' professional identity development.

Supplementary Information

The online version contains supplementary material available at <https://doi.org/10.1186/s12912-024-02590-9>.

Supplementary Material 1

Acknowledgements

We would like to thank the nursing students who participated in the study for their contributions.

Author contributions

AYI and SS wrote the main manuscript text and prepared figures-tables, All authors reviewed the manuscript.

Funding

No financial support was received in the conduct of this research.

Data availability

All data reported in this study have been included in the manuscript.

Declarations

Ethics approval and consent to participate

Ethics committee approval was obtained from Cappadocia University Non-Interventional Ethics Committee before the study was initiated (decision number: 24.11 and date: 10.06.2024). After ethics committee approval was obtained, participants were informed about the research on the planned data collection date and their informed consent was obtained. Participation in the study was voluntary.

Consent for publication

Not Applicable.

Competing interests

The authors declare no competing interests.

Author details

¹Nursing Department, Cappadocia University School of Health Sciences, Nevşehir, Türkiye

Received: 4 August 2024 / Accepted: 9 December 2024

Published online: 26 December 2024

References

- Potter PA, Perry AG, Stockert PA, Hall AM, editors. *Fundamentals of nursing: clinical companion*. Elsevier; 2023.
- Vujančić J, Prlić N, Lovrić R. Nurses' self-assessment of caring behaviors in nurse-patient interactions: a cross-sectional study. *Int J Environ Res Public Health*. 2020;17(14):5255. <https://doi.org/10.3390/ijerph17145255>
- Topola L, Miller K. Do nurses really do that? An exploratory mixed methods study of students' willingness to lead. *Nurse Educ Today*. 2021;100:104824. <https://doi.org/10.1016/j.nedt.2021.104824>
- Yılmaz Ş, Güven Özbek G. Metaphorical perceptions of nursing students about nurse concept. *Eurasian J Health Sci*. 2021;4(3):170–8.
- Kahriman I, Aksoy B, Kandaz U, Arslan Ü. Investigation of nursing students' emotional states toward challenging situations in clinical practice and metaphorical perceptions of the concept of a nurse. *Nurs Educ Pract*. 2024;75:103873. <https://doi.org/10.1016/j.nepr.2024.103873>
- Mansouri F, Darvishpour A. Nursing students' metaphors of first clinical experiences of encountering patients with mental disorders. *BMC Nurs*. 2024. <https://doi.org/10.1186/s12912-024-01780-9>. 23,95.
- Işık B, Kaya H, Bodur G. Perceptions of society regarding the concept of nurse: a metaphorical study. *J Nurs Scholarsh*. 2023;55(6):1215–26. <https://doi.org/10.1111/jnu.12932>
- Anselmann V. Connectivity between education and work in nursing education: validation of an instrument. *Teach Learn Nurs*. 2023;18(2):299–303. <https://doi.org/10.1016/j.teln.2022.06.008>
- Valizadeh L, Zamanzadeh V, Eskandari M, Alizadeh S. Professional competence in nursing: a hybrid concept analysis. *Medical-Surgical Nurs J*. 2019;8(2):e90580. <https://doi.org/10.5812/msnj.90580>
- Sönmez M, Kisacık ÖG, Çetin N. Determination of nurses' views of their responsibilities and nursing students in clinical practice. *J High Educ Sci*. 2020;10(2):372–80.
- Abd Elmenem Ibrahim A, Fathi Sleem W. Relationship between reality shock and Career Resilience among nursing intern's students. *Egypt J Health Care*. 2021;12(3):214–25. <https://doi.org/10.21608/ejhc.2021.189656>
- Ching SSY, Cheung K, Hegney D, Rees CS. Stressors and coping of nursing students in clinical placement: a qualitative study contextualizing their resilience and burnout. *Nurse Educ Pract*. 2020;42:102690. <https://doi.org/10.1016/j.nepr.2019.102690>
- Öner H, Karabudak SS. Negative emotions and coping experiences of nursing students during clinical practices: a focus group interview. *J Psy Nurs*. 2021;12(3):205–15. <https://doi.org/10.14744/phd.2021.59480>
- Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *Int J Qual Health Care*. 2007;19(6):349–57. <https://doi.org/10.1093/intqhc/mzm042>
- Karakaplan S, Ulupınar S, Hastaların Penceresinden. COVID-19 Pandemi Sürecinde Hemşirelerin Mesleki İmajı. *JAREN*. 2023;9(2):118–26. <https://doi.org/10.55646/jaren.2023.79059>
- Saban A. Öğretmen adaylarının öğrenci kavramına ilişkin sahip oldukları zihinsel imgeler. *Türk Eğitim Bilimleri Dergisi*. 2009;7:281–326.
- Moser KS. Metaphor analysis in psychology: method, theory, and fields of application. Volume 1. Forum: Qualitative Social Research; 2000.
- Çelik H, Başer-Baykal NB, Kılıç-Memur HN. Qualitative data analysis and fundamental principles. *J Qual Res Educ*. 2020;8:379–406.
- Miles MB, Huberman AM. *Qualitative data analysis: an expanded sourcebook*. Sage Publications, Inc.; 1994.
- Özsaban A, Bayram A. Factors affecting the clinical experience of nursing students in Turkey: a systematic review. *J Ankara Health Sci*. 2020;9(2):124–45. <https://doi.org/10.46971/ausbid.750585>
- Yavaş G, Özerli AN. The public image of nursing during the COVID-19 pandemic: a cross-sectional study. *Int Nurs Rev*. 2023;1–8. <https://doi.org/10.1111/inr.12922>
- Poorchangizi B, Borhani F, Abbaszadeh A, Mirzaee M, Farokhzadian J. The importance of professional values from nursing students' perspective. *BMC Nurs*. 2019;18:1–7. <https://doi.org/10.1186/s12912-019-0351-1>
- Gatchel RJ. The importance of the profession of nursing in health care: current and future issues. *J Appl Biobehav Res*. 2018;23(1):e12127. <https://doi.org/10.1111/jabr.12127>
- Firouzkouhi M, Kako M, Abdollahimohammad A, Balouchi A, Farzi J. Nurses' roles in nursing disaster model: a systematic scoping review. *Iran J Public Health*. 2021;50(5):879. <https://doi.org/10.18502/ijph.v50i5.6105>
- Huang LH, Chen CM, Chen SF, Wang HH. Roles of nurses and National nurses associations in combating COVID-19: Taiwan experience. *Int Nurs Rev*. 2020;67(3):318–22. <https://doi.org/10.1111/inr.12609>
- Salmund SW, Echevarria M. Healthcare transformation and changing roles for nursing. *Orthop Nurs*. 2017;36(1):12–25. <https://doi.org/10.1097/NOR.0000000000000308>
- Hendekçi A. Hemşirelik öğrencilerinin iletişim becerileri ve ilişkili bazı değişkenler. *Samsun Sağlık Bilimleri Dergisi*. 2020;5(1):36–41.
- Gökçalp K, Durmaz H, Orak OS. Intern nurses in nurses opinions. *GÜSBĐ*. 2018;7:80–5.

29. Purabdollah M, Zamanzadeh V, Ghahramanian A, Valizadeh L, Mousavi S, Ghasempour M. Competencies expected of undergraduate nursing students: a scoping review. *Nurs Open*. 2023;10(12):7487–508. <https://doi.org/10.1002/nop.2.2020>

Publisher's note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.