

# Health Literacy Practices among Professional Nursing Students in Makassar City

<sup>1\*</sup>Nur Fadilah, <sup>1</sup>Aulia Insani Latif, <sup>1</sup>Risna Risna, <sup>1</sup>Sakinah Hardiyanti

<sup>1</sup>Nursing Study Program, Faculty of Nursing, Hasanuddin University, Indonesia

## ARTICLE INFO

### Article History:

Received :10-08-2025

Revised :03-09-2025

Accepted :10-09-2025

### Keywords :

Health Literacy, Nursing Student, Professional

### Correspondence :

Nur Fadilah

### Email :

[fadilah@unhas.ac.id](mailto:fadilah@unhas.ac.id)

## ABSTRACT

**Introduction:** Health literacy is a competence that is not only important for patients but also for nursing students. Nursing students will interact with patients with varying health literacy levels during their education and throughout their careers. Despite its importance, research on health literacy among professional nursing students is limited. This study aims to assess the health literacy practices of professional nursing students in Makassar City. This study used a quantitative method with a cross-sectional survey approach. The population in this study consisted of nursing students in the professional nursing stage. The sampling technique is non-probability sampling with consecutive sampling. The respondents involved in this study were 72 nursing students. Data collection was conducted online using a *Google Form*. The analysis used descriptive statistics, with the results showing frequency distribution, mean, and SD. The study found that among the students, 69.4% were aged 17-25 years, with a mean age of 26.22. The majority were female (75.0%), and from South Sulawesi (80.6%). Related to their education, 73.6% were in the first semester of clinical placement, and have graduated from bachelor of nursing within a year (90.3%). In addition, the average scores for the four aspects of health literacy were: knowledge 14.31 (SD 1.41), communication 34.32 (SD 4.22), shared decision-making 41.11 (SD 5.60), and interpersonal skills 37.49 (SD 4.54). As health literacy is a dynamic skill that needs to be improved through training and experience, nursing education programs must continue to develop students' health literacy competencies from the undergraduate level to the clinical placement stage. Continuous training and periodic assessment of health literacy competencies are recommended to ensure students can apply their knowledge in practice.

## INTRODUCTION

Health literacy contributes significantly to affecting people's quality of life as well as improving community health. Health literacy is defined as an individual's ability to access, understand, and use health information to make informed decisions about their health (1). However, evidence shows that the people's understanding of health literacy is still limited. For example, data from the Centers for Disease Control and Prevention reports that only 1 in 10 adults can understand health information, especially when medical terms are used in the information delivery (2). There are several factors that may influence health literacy level, such as difficulties in understanding new information, having a limited vocabulary, and knowledge related to health conditions (3). In the context of health services, nursing students, as future nurses, will interact directly with patients and will be responsible for providing health education and health services. Therefore, not only do they need to understand the concept of health literacy, but also understand how to implement the health literacy concept in practice(4). This skill also very important to support the use effective communication skills with patients, to educate patients and community about healthy behaviors, disease management, and the appropriate use of healthcare services (5) and also to respond to patients' health information needs more responsively and empathetically (6).

Research on health literacy among nursing students shows varying results. Several studies have found that most nursing student have adequate knowledge of health literacy(4,7,8). However, there are also study conducted in Makassar in 2019 found that 50.6% undergraduate nursing students in the 5th and 7th semesters had a low level of literacy (9). There is also a study conducted in two universities in Spain and France found that nursing students have the highest score in health literacy level when compared to other students from Social Work and Primary Education (10). This inconsistency suggests that more research is needed to explore more on health literacy among nursing students.

In order to improve students' health literacy, a number of studies suggest emphasizing health literacy material in the nursing curriculum (7,8). However, there is currently no definitive approach to integrate the concept of health literacy into nursing education due to overload in the curriculum (11). In Indonesia, the topic of health literacy generally can be found in the professional nursing education stage, in the Community Nursing Professional Practice subject (12), but its implementation may vary between nursing institutions.

Given the limited studies focusing on nursing students, particularly those who are already in the professional nursing education stage, this study aims to provide an overview of health literacy practices among professional nursing students in Makassar City, Indonesia.

## METHODS

This research design is quantitative with a descriptive cross-sectional approach. The variables examined are the practices related to health literacy among nursing students in Makassar City. The population in this study was nursing students in the professional nursing stage program (Ners) from the nursing education institution in Makassar City. The respondents were recruited using a consecutive sampling method. The inclusion criteria for this study included nursing students who could access and complete the online questionnaire and were willing to participate. The exclusion criteria included students from outside institutions in Makassar City who had graduated from the professional nursing stage. A total of 72 respondents participated in this study.

Data collection was conducted through an online questionnaire using a google form and distributed via WhatsApp groups. This questionnaire consisted of two parts: a demographic data questionnaire and a health literacy practices questionnaire. The demographic data questionnaire included age, gender, religion, region of origin, ethnicity, year of graduation, university of origin, and type of nursing education program attended. Given the presence of public and private universities and nursing schools in Makassar City, these types of institutions were included in the demographic questionnaire. Furthermore, the type of nursing programs also included were Regular Class and Partnership Class. The Regular Class is for high school graduates pursuing a bachelor's degree in nursing, and the Partnership Class is for students who have earned a Diploma in Nursing and are pursuing a bachelor's degree in nursing. For the health literacy, the questionnaire used is developed by Lewis et al. (2014), which consists of four domains of health literacy practices : communication, shared decision-making, interpersonal skills, and knowledge (13). The instrument has been adopted and translated into Indonesia and tested for validity and reliability by Syafri, et al in 2018 with Cronbach's  $\alpha$  coefficient of 0.643 for a total of 37 items (14).

Data analysis in this study used univariate analysis, which describes the characteristics of each research variable based on its type. Since the main objective of this study was to describe the health literacy practices of professional nursing students, data analysis focused on the univariate and descriptive statistics: frequency and percentage for categorical variables, as well as mean, standard deviation, minimum and maximum values for health literacy domain scores.

This research has been approved by the Health Research Ethics Committee of the Faculty of Nursing, Hasanuddin University, under number: I86/UN4. I 8.3/TP.01 .02/2025. Relevant permissions from the South Sulawesi government to conduct this study were granted. Approval for the study was obtained from respondents through a *Google form*, where students who agreed to participate clicked the "agree" button before completing the questionnaire.

## RESULT AND DISCUSSION

### RESULT

#### *Respondent Characteristics*

Table 1 Distribution of respondents according to sociodemographic characteristics (N=72)

Variable	Mean (SD)	Min-Max	n (%)
Age	26.22 (6.367)	20-43	
17-25 years			50 (69.4)
26-35 years			11 (15.3)
36-45 years			11 (15.3)
Gender			
Male			18 (25.0)
Female			54 (75.0)
Region of Origin (Province)			
South Sulawesi			58 (80.6)
Central Sulawesi			1 (1.4)
West Sulawesi			1 (1.4)
Southeast Sulawesi			1 (1.4)
Papua			3 (4.2)

Maluku	4 (5.6)
North Kalimantan	2 (2.8)
West Nusa Tenggara	1 (1.4)
East Nusa Tenggara	1 (1.4)
Ethnicity	
Bugis	35 (48.6)
Makassar	16 (22.2)
Toraja	6 (8.3)
Mandar	2 (2.8)
others	13 (18.1)
Current Semester	
1 <sup>st</sup> Semester	53 (73.6)
2 <sup>nd</sup> Semester	17 (23.6)
3 <sup>rd</sup> Semester	2 (2.8)
Year of graduation from Bachelor of Nursing	
2025	5 (6.9)
2024	65 (90.3)
2023	2 (2.8)
University/institutional type	
Public	61 (84.7)
Private	11 (15.3)
Nursing Education Program	
Regular Classes	52 (72.2)
Partnership Classes	20 (27.8)

Source: Primary Data 2025

Table 1 presents the demographic characteristics of respondents. In this study, 69.4% were aged 17-25 years, 75% were female, and 80.6% were from South Sulawesi. Based on their educational characteristics, most respondents were still in their first semester of professional stage (73.6%), and were 2024 bachelor degree graduates (90.3%), came from public universities (84.7%), and from regular nursing classes (72.2%).

Table 2. Distribution of health literacy practices of professional nursing students based on four domains (N=72)

Variable	Mean (SD)	Min-Max
Knowledge	14.31 (1.411)	11-16
Communication	34.32 (4.225)	24-50
Decision-Making skills	41.11 (5.606)	30-50
Interpersonal Skills	37.49 (4.541)	26-45

Source: Primary Data 2025

Table 2 presents the students' knowledge and perceptions regarding health literacy practices for the four domains of health literacy. The highest score was in the domain of decision making (41.11±5.60), while the knowledge score was also relatively high (14.31 ± 1.41). In general, students demonstrated adequate health literacy practices in all four domains

## DISCUSSION

Health literacy is not only important for people who receive health services but also for those who provide health services, including health workers (15). As healthcare providers, nursing students must be able to apply health literacy to themselves, the patients they currently interact in clinical settings, and for their future roles as nurses. The results of this study indicate that professional nursing students have adequate health literacy practices in four domains: knowledge, communication, decision-making skills, and interpersonal skills.

Several studies have shown that health literacy competencies tend to increase based on the level of education. The higher the semester of the student, the higher the health literacy competencies will be. The students in this study were students who had graduated from a Bachelor of Nursing program within a year, and that might influence their health literacy practices and knowledge. For example, a study in Spain showed that health literacy in nursing students was better in their later semesters compared to their first-year program (16). This is also in line with research conducted by Pagesa, et al (9) among Indonesian nursing students who found that the health literacy of nursing students in semester 7 was higher than that of semester 5, although overall, their health literacy was still

considered to be low as it should be. In contrast, another study revealed that most final year nursing students had limited health literacy knowledge (17) which is likely due to the fact they are in the final stage of their studies, and no longer actively apply their health literacy related skills.

In the context of this research, students from the first semester to the third semester have gained clinical nursing experience, meaning they have interacted with patients, so their understanding of the practical application of health literacy is adequate. This experience provides an opportunity to apply the health literacy skills that have been learned, while also increasing their knowledge (7). This is in contrast to a study conducted in Namibia, which showed that while nursing students generally have a good understanding of health literacy, but there are gaps in applying this knowledge to practice (4). As future healthcare professionals, nursing students are expected to understand the concept of health literacy as an important foundation in providing care to patients. Adequate health literacy competencies enable nurses not only to provide information effectively and support patients' understanding of the health information provided (6), but also to build healthy habits for themselves, their families, and friends(18).

As healthcare services become increasingly complex, equipping professional nursing students with the skills to not only understand health information but also able to effectively communicate to patients and their families is crucial. In terms of communication skills, this study found that good health literacy practices are also reflected in the communication domain. As nurses work most closely with patients, they are responsible for being the facilitators of improving their patients' health literacy skills (19), and through good communication, nurses not only can patients but also to support them. However, communication in health care is often lacks of deeper understanding of other form of communications and only focuses on healthcare professionals rather than empowering patients (20). Therefore, it is important to have more training on this to enhance nursing student-patients' communication.

In addition to knowledge and communication, interpersonal skills are also an important aspect of health literacy. These skills are related to the consideration of individual condition and cultural factors within the patient, which can enhance patient trust and enhance their ability to actively participate in health services (19). In this study, the interpersonal skills of the students were found to be good. However, improvement in interpersonal skills is still needed. A study in Tanzania reported that although health literacy training improved undergraduate students' competence, the respect and compassionate care remained the same after the training(6). Therefore curriculum that emphasizes the application of health literacy is needed to prepare students to apply their knowledge in nursing practice (4,21).

In this study, the majority of respondents were female students, and the mean age was 26.22. A study has found that females tend to have better health literacy, especially related to health information seeking behavior (16) However, there are also other studies that found female tends to have lees health literacy compared to men (22) and even no significant differences between the health literacy of male and female students (4). Furthermore, there are several studies that shows age plays an important part in the health literacy of students, the older they are, the better health literacy they have(22,23). While, there is also a study that shows no correlation between age and health literacy (4). These varying findings suggest that there are multiple factors that may influence the health literacy of nursing students.

The implication of this study shows that, although the students in this study have acquired theoretical knowledge and clinical experience, strengthening health literacy competencies should not end at the educational stage. Both educational institutions and health institutions in Indonesia also need to continue exploring innovative strategies to improve and maintain health literacy, both for professional nursing students and nurses who have entered clinical practice. A study in Taiwan which found that found that combining team-based learning with other teaching methods improved nursing students' knowledge and attitudes toward health literacy(11). Moreover, a study of primary care clinic staff found that an interactive health literacy training intervention, including online modules and face-to-face reinforcement sessions, significantly improved staff knowledge of health literacy, including the application of communication skills to patients (5). These indicate that there are many ways to improve and maintain students' health literacy, and through its efforts, the institution has indirectly prepared students to face the diverse needs and literacy skills of patients in the future.

The limitation of this study is that the respondents were recruited using the WhatsApp Groups platform. While this platform facilitates the distribution of information about this research, it may have caused bias, as it might not reach students who are not active on the platform. Therefore, the findings may not be representative of Makassar population.

### CONCLUSION

This study shows that professional nursing students have a generally good level of health literacy practice shown in four different aspects of health literacy: knowledge, communication, shared decision-making, and interpersonal skills. The relatively high result can be attributed to students' exposure to patients, as they are currently in the professional stage of their nursing program stage and have gained background knowledge in health literacy. As health literacy is a dynamic skill that needs to be improved through training and experience, ongoing training and regular assessment of health literacy competencies should be conducted to ensure students can apply their knowledge in practice.

### ACKNOWLEDGEMENTS

The researcher would like to thank the professional nursing students for their participation in this research, as well as all parties who have contributed to this research. All supports and cooperation have been invaluable in completing this study.

### REFERENCES

1. World Health Organization. Health literacy. <https://www.who.int/news-room/fact-sheets/detail/health-literacy>
2. Centers for Diseases Control and Prevention. Talking Points About Health Literacy. <https://www.cdc.gov/health-literacy/php/about/tell-others.html>
3. Murugesu L, Heijmans M, Rademakers J, Fransen MP. Challenges and solutions in communication with patients with low health literacy: Perspectives of healthcare providers. *PLoS ONE*. 2022;17(5 May): 1–16.
4. Munangitire T, Tomas N, Mareka V. Nursing students' understanding of health literacy and health practices: a cross-sectional study at a university in Namibia. *BMC nursing*. 2022;21(1): 8.
5. Gibson C, Smith D, Morrison AK. Improving Health Literacy Knowledge, Behaviors, and Confidence with Interactive Training. *Health literacy research and practice*. 2022;6(2): e113–e120.
6. Kidayi PL, Dausen EJ, Ndile M, Sixsmith J, Mawona ZM, Berntsen K, et al. Development of a training programme to improve health literacy and respectful compassionate care competencies among undergraduate student nurses: a quantitative study. *BMC Medical Education*. 2025;25(1): 348.
7. Erunal M, Ozkaya B, Mert H, Kucukguclu O. Investigation of Health Literacy Levels of Nursing Students and Affecting Factors Merve. *International Journal of Caring Sciences*. 2019;12(1): 270–279.
8. Ayaz-Alkaya S, Terzi H. Investigation of health literacy and affecting factors of nursing students. *Nurse Education in Practice*. 2019;34: 31–35.
9. Bella Fitri Pagesa S, Harisa A, Nurdin N, Syafar Sangkala M, Malasari S. Health Literacy Level of Nursing Students in the Islamic Colleges of Makassar City. *Indonesian Contemporary Nursing Journal*. 2022;6(2): 62–69.
10. Juvinyà-Canal D, Suñer-Soler R, Porquet AB, Vernay M, Blanchard H, Bertran-Noguer C. Health literacy among health and social care university students. *International Journal of Environmental Research and Public Health*. 2020;17(7): 1–10.
11. Chang MC, Yu JH, Hsieh JG, Wei MH, Wang YW. Effectiveness of the refined health literacy course on improving the health literacy competencies of undergraduate nursing students: quantitative and qualitative perspectives. *Medical education online*. 2023;28(1): 2173042.
12. Asosiasi Institusi Pendidikan Ners Indonesia (AIPNI). Kurikulum Pendidikan Ners Indonesia Tahun 2021. 2021. [https://repository.umj.ac.id/11480/1/buku\\_kurikulum\\_pendidikan\\_Ners\\_thn\\_2021\\_edit\\_23\\_maret\\_2022\\_siap\\_cetak.pdf](https://repository.umj.ac.id/11480/1/buku_kurikulum_pendidikan_Ners_thn_2021_edit_23_maret_2022_siap_cetak.pdf)
13. Lewis KO, Morgan JE, Wang LL, Calderon K, Rammel J, Ozer M. Health literacy practices of physicians and patient care personnel in a hospital setting. *Journal of Contemporary Medical Education*. 2014;2(4): 205.
14. Syafri I. Gambaran Persepsi Petugas Kesehatan terkait Praktik Health Literacy dalam Pelayanan Kesehatan Pasien di Puskesmas Kota Makassar. Universitas Hasanuddin; 2018.

15. Rahman A, Buanasari A, Jayanti M, Tome IS, Hiola AA., Sengkey E. Gambaran Pemanfaatan Media Sosial sebagai Sumber Literasi Kesehatan Digital pada Mahasiswa Universitas Sam Ratulangi. *Jurnal Lentera - Penelitian dan Pengabdian Masyarakat*. 2021;2(2): 21–26.
16. González-López JR, Rodríguez-Gázquez M de LA. Do health literacy levels of nursing students change throughout the study programme? A cross-sectional study. *BMJ open*. 2022;12(1): e047712.
17. Maduramente TS, Orendez JD, Saculo JA, Trinidad ALA, Oducado RMF. Health Literacy: Knowledge and Experience Among Senior Students in A Nursing College. *Indonesian Nursing Journal of Education and Clinic (Injec)*. 2019;4(1): 9.
18. Purwana R, Novianti W, Baiduri Siregar R, Saputra H, Farmasi dan Kesehatan F, Studi PD, et al. Pengaruh Program Literasi Kesehatan terhadap Pengetahuan Mahasiswa Mengenai Gaya Hidup Sehat. *Journal Healthy Purpose*. 2024;3(2): 156–162.
19. Wilandika A, Pandin MGR, Yusuf A. The roles of nurses in supporting health literacy: a scoping review. *Frontiers in public health*. 2023;11: 1022803.
20. Soares AKF, de Sá CHC, Lima R da S, Barros M da S, Coriolano-Marinus MW de L. Communication in health care from the experiences of Nursing students and teachers: contributions to health literacy. *Ciencia e Saude Coletiva*. 2022;27(5): 1753–1762.
21. Anselmann V, Halder S, Sauer S. Nursing Students' Health Literacy and Strategies to Foster Patients' Health Literacy. *International journal of environmental research and public health*. 2024;21(8).
22. Ramón-Arbués E, Granada-López JM, Antón-Solanas I, Cobos-Rincón A, Rodríguez-Calvo A, Gea-Caballero V, et al. Factors related with nursing students' health literacy: a cross sectional study. *Frontiers in public health*. 2023;11: 1053016.
23. Qadhi OA, Albothi GK, Fallatah R, Anazi M, Al-Rawi MBA, Syed W. Navigating Health Literacy and Practices: A Cross-Sectional Study on Nursing Undergraduates in Riyadh, Saudi Arabia. *Medical science monitor : international medical journal of experimental and clinical research*. 2023;29: e941632.