

Original Research

Readiness for Future Health Professional Collaboration: Knowledge of Interprofessional Collaboration among Undergraduate Health Students



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Article Info

Article History:
Received: 2025-07-08
Revised: 2026-01-22
Accepted: 2026-01-26

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DOI: [10.65277/ohj.v3i1.125](https://doi.org/10.65277/ohj.v3i1.125)

Abstract

Background: Interprofessional collaboration (IPC) refers to cooperation among health workers from different professional backgrounds in providing comprehensive health services involving patients, families, and communities to ensure optimal quality of care. Adequate knowledge of IPC among health students is essential as a foundation for effective collaborative practice in the future.

Objective: This study aimed to describe the level of knowledge of prospective health undergraduate students regarding interprofessional collaboration.

Methods: This study employed a non-experimental quantitative design with a descriptive approach. A total of 50 prospective health undergraduate students were selected using quota sampling. Data were collected using a structured questionnaire and analyzed using descriptive statistics.

Results: The findings showed that the majority of respondents demonstrated a good level of knowledge regarding interprofessional collaboration. High levels of knowledge were observed in understanding the definition and benefits of IPC (both 86%). However, lower proportions of respondents demonstrated good knowledge regarding the objectives, factors influencing, and barriers to IPC, with good knowledge levels ranging from 50% to 60%.

Conclusion: Although prospective health undergraduate students generally possess good foundational knowledge of interprofessional collaboration, gaps remain in understanding its practical objectives, influencing factors, and barriers. Future research is recommended to not only assess knowledge levels but also evaluate students' readiness and competencies in implementing interprofessional collaboration in clinical practice.

Keywords: Health students; knowledge; interprofessional collaboration

How to Cite:

Risnah, Asrul, N. A. M. ., Alwi, Irwan, M. ., & Harmawati. (2026). Readiness for Future Health Professional Collaboration: Knowledge of Interprofessional Collaboration among Undergraduate Health Students. *Omni Health Journal*, 3(1), 25-30. <https://doi.org/10.65277/ohj.v3i1.125>

Introduction

In field of healthcare, collaborative practice plays a crucial role, as complex patient problems cannot be managed effectively by a single health profession. Optimal healthcare services require the involvement of various health professionals working together in an interprofessional team. Effective collaboration among health professionals is a key factor in improving the quality of health services and ensuring patient and community safety. However, in practice, uniting different health professions into an effective interprofessional team remains a significant challenge. Differences in professional status, stereotyping, feelings of superiority and inferiority, and the dominance of directive actions from certain professions often hinder collaborative practice, indicating the need for mutual agreement and understanding.

These challenges are closely related to the limited ability of health workers to establish effective collaboration, particularly due to inadequate interprofessional communication skills and the lack of a discussion-oriented culture in making family- and community-based clinical decisions. Miscommunication between professions frequently leads to ineffective care delivery. To address problems arising from poor interprofessional communication, strong collaboration among health workers is required, commonly referred to as Interprofessional Collaboration (IPC). One strategy to strengthen IPC is through early exposure during the educational phase via Interprofessional Education (IPE), which introduces collaborative values and teamwork across professions (Falah, 2020).

Patient safety has long been a global concern, with increasing rates of mortality and adverse events reported worldwide. In several countries, a substantial proportion of patient deaths and injuries have been linked to medical errors, many of which are associated with ineffective communication and poor collaboration among healthcare professionals. In hospital settings, healthcare services are inherently multidisciplinary, creating potential risks such as overlapping roles, interprofessional conflict, and delays in examinations and clinical interventions. Evidence shows that poor teamwork and communication contribute significantly to patient safety incidents, while effective teamwork can help reduce these risks (Tarigan, 2020; Keumalasari, 2021).

In Indonesia, patient safety issues are similarly influenced by suboptimal interprofessional communication and collaboration. Medical errors are reported to occur due to medication administration, prescription practices, and improper drug use, alongside the dominance of certain professions in clinical decision-making without adequate involvement of nurses and other health professionals. These conditions contribute to patient safety risks, including medication-related errors and patient falls. Therefore, improving patient safety requires not only the implementation of standard protocols and safe medication management, but also the strengthening of communication, coordination, and effective collaboration among health professionals (Keumalasari, 2021).

Hospital healthcare services are delivered by various health professions, including medical personnel, nursing staff, midwifery personnel, pharmaceutical personnel, nutritionists, physiotherapists, clinical psychologists, medical technicians, and biomedical engineers, as regulated under Law Number 36 of 2014. Given the complexity of healthcare services, both the Institute of Medicine (IOM) and the World Health Organization (WHO) emphasize the importance of interprofessional collaboration in optimizing healthcare delivery and improving patient outcomes. Interprofessional collaboration refers to cooperation among health professionals from different professional backgrounds to address health problems and deliver comprehensive care. Ineffective interprofessional collaboration may negatively affect hospitals, healthcare providers, and patients, resulting in decreased patient and family satisfaction with health services (Rida, 2018; Mawarni, 2019). Based on these conditions, this study aims to examine interprofessional collaboration in hospital settings and to analyze its role in supporting patient safety and the effectiveness of healthcare services.

Methods

Study Design

This study employed a non-experimental quantitative approach using a descriptive study design. A survey method was applied to describe the level of knowledge of prospective health undergraduate students regarding Interprofessional Collaboration (IPC). This design was chosen to obtain a systematic overview of respondents' knowledge without manipulating any variables.

Samples

The population in this study consisted of prospective health undergraduate students at UIN Alauddin Makassar. A quota sampling technique was used to ensure that the predetermined number of respondents was achieved. A total of 50 respondents were included in the study, based on accessibility and feasibility considerations.

Instruments

The research instrument used in this study was a closed-ended questionnaire designed to measure the level of knowledge of prospective health undergraduate students regarding Interprofessional Collaboration (IPC). The questionnaire was developed based on a review of relevant literature and previous studies related to IPC concepts, roles of health professionals, and collaborative practices in healthcare. The questionnaire consisted of multiple-choice questions that covered key aspects of IPC, including understanding of interprofessional roles, communication, teamwork, and collaboration in healthcare settings. To ensure content validity, the items were constructed by aligning them with established IPC concepts found in the literature. The questionnaire was reviewed and refined to ensure

clarity, relevance, and appropriateness for the target population. The validity and reliability of the questionnaire were supported by references to previously validated instruments and relevant literature addressing IPC knowledge assessment. Prior to data collection, the questionnaire was reviewed to minimize ambiguity and ensure consistency in measuring respondents' knowledge levels.

Data Collection

Data were collected through the distribution of questionnaires using both online and offline methods, depending on the respondents' accessibility and preferences. Online questionnaires were distributed using digital platforms, while offline questionnaires were administered directly to respondents. This approach was intended to maximize response rates and ensure adequate participation.

Data Analysis

The collected data were analyzed using descriptive quantitative analysis. Frequencies and percentages were calculated to describe the distribution of respondents' knowledge levels regarding Interprofessional Collaboration. Knowledge levels were categorized into three groups: good, adequate, and poor, based on the total scores obtained from the questionnaire responses.

Ethical Considerations

Ethical approval for this study was obtained from the Ethics Committee of UIN Alauddin Makassar. Prior to data collection, respondents were provided with an informed consent sheet explaining the purpose of the study, procedures, confidentiality, and voluntary participation. Only respondents who provided informed consent were included in the study, and all data were treated confidentially.

Results

Characteristics of Respondents

Table 1 shows that respondents were evenly distributed across five health majors, namely Midwifery, Public Health, Pharmacy, Nursing, and Medicine. Each major contributed 10 respondents (20%), resulting in a total of 50 respondents.

Table 1. Frequency Distribution of Respondents by Major
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Major	n	%
Midwifery	10	20.0
Public Health	10	20.0
Pharmacy	10	20.0
Nursing	10	20.0
Medicine	10	20.0
Total	50	100.0

Source: SPSS Processed Data

Table 2 indicates that most respondents were 19 years old (62%), followed by those aged 18 years (26%). Only a small proportion of respondents were aged 20 years (10%) and 21 years (2%).

Table 2. Frequency Distribution of Respondents by Age

Age (years)	n	%
18	13	26.0
19	31	62.0
20	5	10.0
21	1	2.0
Total	50	100.0

Source: SPSS Processed Data

Table 3 shows that female respondents dominated the sample, accounting for 78%, while male respondents represented 22%.

Table 3. Frequency Distribution of Respondents by Gender

Gender	n	%
Male	11	22.0
Female	39	78.0
Total	50	100.0

Source: SPSS Processed Data

Overview of Knowledge on Interprofessional Collaboration

To avoid redundancy, the distribution of respondents' knowledge regarding Interprofessional Collaboration (IPC), including overall knowledge, definition, benefits, objectives, influencing factors, and barriers, is summarized in a single table.

Table 4. Distribution of Knowledge Levels on Interprofessional Collaboration Among Prospective Health Undergraduate Students

Knowledge Aspect	Good n (%)	Adequate n (%)	Poor n (%)	Total
Overall IPC Knowledge	46 (92%)	4 (8%)	0 (0%)	50
Definition of IPC	43 (86%)	7 (14%)	0 (0%)	50
Benefits of IPC	43 (86%)	5 (10%)	2 (4%)	50
Objectives of IPC	30 (60%)	17 (34%)	3 (6%)	50
Factors Affecting IPC	27 (54%)	20 (40%)	3 (6%)	50
Barriers to IPC	18 (36%)	25 (50%)	7 (14%)	50

Source: SPSS Processed Data

Narratively, the results indicate that the majority of respondents demonstrated a good level of overall knowledge regarding Interprofessional Collaboration (92%). High proportions of respondents also showed good knowledge of the definition and benefits of IPC (both 86%). However, knowledge levels decreased when addressing more complex aspects, such as objectives, influencing factors, and barriers to IPC, where a higher proportion of respondents fell into the adequate and poor categories. This suggests that while basic concepts of IPC are well understood, deeper and contextual aspects of IPC require further strengthening.

Discussion

Characteristics of respondents

The respondents in this study consisted of 50 prospective undergraduate health students aged between 18 and 21 years, with female respondents predominating (78%). This demographic composition reflects the general profile of health science students in Indonesia, particularly in nursing, midwifery, and pharmacy programs, which are often dominated by female students. The relatively homogeneous age range indicates that most respondents were at a similar developmental and educational stage, which may contribute to comparable levels of exposure to academic content related to health professions and collaboration. The equal distribution of respondents across five health majors provides a balanced representation of health disciplines. This distribution is important, as Interprofessional Collaboration (IPC) inherently involves interaction among different health professions. Therefore, the respondent composition supports the relevance of examining IPC knowledge across multiple health disciplines rather than focusing on a single profession.

Overall Knowledge of Interprofessional Collaboration

The findings show that the majority of respondents (92%) had a good level of overall knowledge regarding Interprofessional Collaboration. This result aligns with previous studies indicating that health students generally possess adequate foundational knowledge of professional roles and collaboration concepts (Berliana, 2015; Hardin L, 2017; Mawarni, 2019). Knowledge is a crucial cognitive domain that underpins attitudes and behaviors, and sufficient knowledge is considered a prerequisite for competent professional practice (Fauzan Alfikrie, 2021).

However, although overall knowledge levels were high, this finding should be interpreted cautiously. High knowledge scores do not automatically translate into effective collaborative behavior in real clinical settings. Prior research has shown that gaps often remain between cognitive understanding and practical implementation of IPC, particularly when students enter complex clinical environments where hierarchical structures and professional boundaries are prominent (Mawarni, 2019).

Overview of Knowledge of the Definition and Objectives of Interprofessional Collaboration

Most respondents demonstrated good knowledge of the definition of Interprofessional Collaboration (86%). This indicates that students are generally familiar with the conceptual meaning of IPC, likely due to exposure through coursework, lectures, or general academic discussions. Conceptual understanding is considered the lowest but most fundamental level of knowledge, as it enables individuals to recognize and define key concepts accurately.

In contrast, knowledge related to the objectives of IPC showed a lower proportion of respondents in the good category (60%), with a substantial proportion categorized as having adequate or poor knowledge. This finding suggests that while students understand what IPC is, they may have a less comprehensive understanding of why IPC is implemented and what outcomes it seeks to achieve. This gap may reflect limited integration of IPC objectives into learning activities or insufficient emphasis on outcome-oriented collaboration during undergraduate education.

Knowledge of the Benefits of Interprofessional Collaboration

The majority of respondents demonstrated good knowledge regarding the benefits of IPC (86%). This result is consistent with previous studies showing that students recognize the positive impact of interprofessional collaboration on patient safety and quality of care (Andriani et al., 2019; Kurniasih Kalistalta, 2021). Understanding the benefits of IPC may foster positive attitudes toward teamwork and shared decision-making in healthcare settings.

Nevertheless, the presence of respondents with adequate and poor knowledge indicates that not all students fully appreciate the broader implications of IPC, such as its role in reducing medical errors, improving communication, and enhancing patient outcomes. This finding highlights the need for learning strategies that move beyond theoretical explanations toward experiential and case-based learning.

Knowledge of Factors Affecting and Barriers to Interprofessional Collaboration

Knowledge related to factors influencing IPC and barriers to its implementation was relatively lower compared to other aspects. While more than half of the respondents demonstrated good knowledge of influencing factors, knowledge of IPC barriers was predominantly in the adequate category. This pattern suggests that students may be less exposed to discussions about systemic, organizational, and cultural challenges associated with IPC.

The findings indicate that respondents tended to focus primarily on communication as a barrier, while underestimating other important factors such as professional hierarchy, organizational culture, and curriculum integration. This result supports previous research showing that poor communication is a dominant perceived barrier to IPC (Lestari et al., 2018), but it also reveals a limited understanding of structural and educational barriers that hinder effective collaboration.

Implications for Curriculum Development

The results of this study highlight the need for stronger integration of Interprofessional Education (IPE) within undergraduate health curricula. While students demonstrate good knowledge of IPC concepts and benefits, gaps remain in their understanding of objectives, influencing factors, and barriers. Curriculum development should therefore emphasize not only theoretical knowledge but also practical and reflective learning experiences, such as case-based discussions, simulations, and interprofessional group projects.

Integrating IPC concepts across courses and disciplines may help students develop a more comprehensive and realistic understanding of collaboration in healthcare settings. Early exposure to interprofessional learning environments can prepare students to navigate professional differences and work effectively in multidisciplinary teams.

Study Limitations

This study has several limitations. First, the use of a descriptive design limits the ability to draw causal conclusions regarding factors influencing IPC knowledge. Second, the sample size was relatively small and drawn from a single institution, which may limit the generalizability of the findings. Third, the study relied solely on self-reported questionnaire data, which may be subject to response bias and may not fully reflect actual collaborative competencies. On the question about barriers to interprofessional collaboration, many respondents answered incorrectly on the question about the curriculum that has not been integrated as an obstacle to IPC, this is because students only consider the obstacle to IPC only to be a poor communication factor.

Future studies are recommended to involve larger and more diverse samples from multiple institutions. In addition, mixed-method approaches combining quantitative surveys with qualitative interviews or observations could provide deeper insights into students' perceptions and experiences of interprofessional collaboration. Evaluating the effectiveness of interprofessional education interventions would also be valuable in strengthening IPC implementation in health education.

Conclusion

This study demonstrates that prospective health undergraduate students generally possess a good level of knowledge regarding Interprofessional Collaboration (IPC). The highest level of knowledge was observed in understanding the definition and benefits of IPC, with 86% of respondents categorized as having good knowledge in both aspects. This indicates that students have adequately grasped the basic concepts and positive impacts of interprofessional collaboration in healthcare settings. However, knowledge related to the objectives, factors influencing, and barriers to IPC showed lower proportions of respondents in the good category, at 60%, 54%, and 50%, respectively.

These findings suggest that while students understand what IPC is and why it is beneficial, their understanding of how IPC functions in practice and what challenges may hinder its implementation remains limited. Overall, the results highlight the need for strengthened interprofessional education that not only emphasizes conceptual understanding but also addresses practical objectives, contextual factors, and barriers to collaboration. Enhancing curriculum integration and experiential learning related to IPC may better prepare students for effective collaborative practice in future healthcare environments.

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