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RESEARCH ARTICLE

# Interprofessional collaboration practices: Health worker's perceptions in private hospital Surabaya

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## Abstract

**Background:** The quality of services provided by hospitals is the responsibility of a group of multi-professional teams working with different professional backgrounds, resulting in inter-professional conflicts that cause losses. To produce quality services, building Interprofessional Collaboration (IPC) among health workers is very important. One of the challenges that prevents the implementation of IPC from working efficiently is the varying opinions of health workers regarding interprofessional collaboration activities. **Objective:** The goal of this study was to investigate the attitudes of health workers concerning the practice of IPC in hospitals. **Method:** This research was an observational study employing a cross-sectional strategy. Health workers' impressions of interprofessional cooperation practices were analysed using the Collaborative Practice Assessment Tool for health workers. **Result:** This study involved 105 health professional respondents. The findings of the questionnaire analysis indicated significant differences in the domain of Relationship among Team Members ( $p$  0.027), Team Relationship with the Community ( $p$  0.012), Leadership ( $p$  0.009), and Mission, Goals, and Objectives ( $p$  0.001). **Conclusion:** Based on research findings, there are differences in perceptions among health workers because each professional competency domain is different. Therefore, interprofessional education is necessary to illustrate the implementation of collaborative practices across various professions.

## Introduction

The quality of health care supplied to patients by hospitals is critical as a benchmark for improving and creating quality patient services (Lestari *et al.*, 2017). The quality of service within hospitals is upheld by diverse multidisciplinary teams collaborating to manage patient care processes. The health workers referred to are medical, nursing, clinical psychology, midwifery, pharmacy, nutrition, physical therapy, medical engineering, and biomedicine. All multi-professional team members must communicate, collaborate, and work to provide optimal health services.

However, in providing these services, inter-professional problems cause losses (Keumalasari *et al.*, 2021). If

interprofessional issues are not addressed, the quality of health care provided to patients decreases. Health personnel must engage in Interprofessional Collaboration (IPC) to provide effective services. IPC is a collaboration between health workers from various professional backgrounds and patients and families to create complete, high-quality medical services (Susilaningsih, 2017).

Several studies show pharmacist-physician collaboration significantly improves clinical outcomes and optimises patient care. The relationship between these two professional groups was the main focus for a long time, while collaboration between pharmacists and the nursing community remained unnoticed. Due to many difficulties, the introduction of interprofessional collaborative techniques has not

gone smoothly. Differences in aims, educational expectations, responsibilities, authority, and experience between professions impact IPC constraints while delivering care services to patients (Morley *et al.*, 2017).

According to Winfield *et al.* (2017), communication difficulties, a lack of meeting time, and a lack of knowledge among health workers about the potential contributions of other professions stymie the implementation of interprofessional collaborative practices for exchanging ideas. The social hierarchy in the hospital service structure causes obstacles in communication and collaboration between teams and influences the decision-making process regarding patient care. This social hierarchy makes team members at lower hierarchical levels feel less empowered or reluctant to express their opinions, views, or knowledge regarding patient care. Health experts in different nations believe that developing collaborative interprofessional practices is critical for providing high-quality treatment to patients.

Serrano-Gemes *et al.* (2017) performed a study that found that the intensity of interprofessional cooperation practices among nurses on duty in the ICU of a Spanish hospital with at least six months of work experience is moderate, at 62.3%. In Indonesia, health practitioners are also encouraged to engage in interprofessional collaborative activities (KARS, 2018). According to a study conducted at RSBP Batam City by Samosir *et al.* (2021), the majority of interprofessional collaboration between health workers was positive (73.7%), but the implementation of interprofessional collaboration practices has not been evenly implemented in Indonesia.

Interprofessional collaboration has been found to increase patient safety by optimising therapeutic dosages, minimising adverse drug responses, and lowering morbidity and mortality (Bosch *et al.*, 2015). According to a study done by Irajpour *et al.* (2019) using a quasi-experimental research technique, the incidence of medication mistakes has dramatically decreased ( $p < 0.001$ ) after using interprofessional cooperation practices. According to Kurniasih *et al.* (2019), implementing interprofessional collaborative practices increased the value of implementing patient safety in the intervention group from an average value of 27.40 to 29.93, implying that interprofessional collaboration positively impacts patient safety.

## Methods

### Design

This was cross-sectional observational research using a non-experimental technique that aimed to examine differences in the views of health workers at the same period or at one time, with no further measures on the respondents.

### Data collection

Data on health professionals' attitudes were collected using the Indonesian version of the Collaborative Practice Assessment Tool (CPAT) questionnaire. A total of 160 questionnaires were distributed, of which 105 were completed in full. The inclusion criteria for this study were health workers who were actively working when the CPAT questionnaire was submitted.

The health workers willing to fill out the questionnaire were 18 health analysts, 5 pharmacists, 10 pharmaceutical technical personnel, 53 nurses, 17 midwives, 1 nutritionist, and 1 physiotherapist. Exclusion criteria for this study included health personnel who were on leave or incapacitated throughout the data collection period. Hospital policy prohibited the involvement of the medical profession during data collection. Clinical pharmacists participated in the study, with only one assuming a managerial role, specifically as the head of the pharmacy unit.

### Instrument

The Indonesian version of the CPAT questionnaire includes eight major domains that were extracted to yield a Cronbach's alpha value of 0.911, implying that the Indonesian version of the CPAT questionnaire used in this study confronted the validity and reliability criteria as an assessment instrument for collaborative interprofessional practices in each component of the statement and questionnaire. The Indonesian version of the CPAT questionnaire has eight domains and 53 remarks items, including the relationship between members (9 statements), team barriers to collaboration (5 statements), team relations with the community (4 statements), coordination and division of roles (14 statements), decision-making and conflict resolution (2 statements), leadership (5 statements), mission, goals, and objectives (9 statements), and patient involvement (5 statements).

### Data analysis

Univariate analysis was employed for data analysis to ascertain the demographic characteristics of the respondents. The evaluation of the CPAT questionnaire scores was conducted using a Likert scale, wherein each

item in the questionnaire provided alternative options of strongly agree (SS), agree (S), undecided (R), disagree (TS), strongly disagree (STS), and not applicable (NA), with score levels of 5, 4, 3, 2, and 1 respectively. The data collected from the Indonesian adaptation of the CPAT questionnaire, which aimed to assess health workers' views on collaborative multidisciplinary practices, was analysed using SPSS software version 25. This analysis aimed to determine the respondents' answers' average score and assess differences in health workers' perceptions of interprofessional collaboration practices. Due to the non-normal distribution of the data, a non-parametric test, specifically the Kruskal-Wallis test, was employed.

**Location**

The study was conducted at private hospitals in Surabaya from December 2022 to January 2023.

**Ethical consideration**

The research and development ethics team of "Private Hospital Surabaya" was certified for this study under the number 1570/DEK/FF/XI/2022.

**Results**

The demographic distribution of research respondents was analysed, and the findings were presented in Table I in tabular form. Respondents were classified based on their gender, age range, occupation, and duration of work experience. Most of the 105 respondents were female, comprising 85 (80.95%), and the majority were over 30 (56.19%). Nurses were the predominant

occupation among respondents, accounting for as many as 53 (50.48%).

**Table I: Data on respondent demographic distribution (n = 105)**

Demographic characteristics	Total	%
<b>Gender</b>		
Man	20	19.05
Woman	85	80.95
<b>Age</b>		
20 – 29 years old	32	30.48
30 – 39 years old	59	56.19
40 – 49 years old	14	13.33
<b>Profession</b>		
Health analyst	18	17.14
Pharmacist	5	4.77
TTK	10	9.52
Nurse	53	50.48
Midwife	17	16.19
Others	2	1.90

\*TTK: pharmacy technician; Others : nutritionist and physiotherapist

As indicated in Table II, nurses were the most common type of health professional, with an average tenure of more than five years. The profession of health analyst demonstrated the highest median score, reaching 217.5, with a minimum score of 200 and a maximum score of 252. Table III revealed significant variations in the values of the CPAT questionnaire within the domains of "Relationship among Team Members", "Team Relationships with the Community", "Leadership", and "Mission, Goals, and Objectives".

**Table II: Respondent demographic distribution based on years of service**

Working period	Pharmacist		TTK		Nurse		Health analyst		Midwife		Total	
	f	%	F	%	f	%	f	%	f	%	f	%
0-5	5	4.8	7	6.7	17	16.2	5	4.8	0	0	34	32.4
5-10	0	0	0	0	19	18.1	6	5.7	4	3.8	30	28.6
>10	0	0	3	2.9	17	16.2	7	6.7	13	12.4	41	39
Total	5	4.8	9.5	9.5	53	50.5	18	1.1	17	16.2	105	100

\*TTK: pharmacy technician; Others : nutritionist and physiotherapist

Table III: Various test results for each perception domain

Domain	Maximum score	Median (maximal and minimal score)					p value (Kruskal Wallis)
		Pharmacist	TTK	Nurse	Health analyst	Midwife	
Total Score	265	199 (192-220)	204.5 (199-239)	204.5 (199-239)	217.5 (200-252)	210 (192-221)	
<b>Domain</b>							
Relationships among team members	45	36 (36-42)	39.5 (36-41)	39 (35-45)	40 (36-45)	36 (32-43)	0.041*
Barriers to team collaboration	25	15 (13-20)	15 (12-25)	17 (5-25)	17 (5-22)	17 (10-22)	0.830
Team relationships with the community	20	13 (0-16)	16 (12-20)	16 (12-20)	16 (4-20)	16 (12-18)	0.012*
Role distribution and coordination	70	56 (56-60)	56 (48-62)	56 (49-70)	58 (53-70)	56 (56-59)	0.187
Decision-making and conflict management	10	4 (2-4)	4 (2-6)	4 (2-7)	4 (2-5)	4 (4-10)	0.143
Leadership	25	20 (18-20)	20 (19-24)	20 (10-25)	20 (20-25)	20 (20-20)	0.007*
Mission, goals, and objectives	45	36 (31-41)	36 (32-44)	36 (33-45)	42 (36-45)	36 (35-38)	0.001*
Patient involvement	25	20 (20-21)	20 (20-25)	20 (10-25)	20.5 (19-25)	20 (18-21)	0.295

\* Difference significance ( $p < 0.05$ )

## Discussion

Health workers' perceptions regarding interprofessional collaborative practices impact their professional attitudes in providing services to patients; therefore, positive perceptions aid the effective implementation of interprofessional collaboration practices.

In "*Relationships among team members*" domain, nursing has a higher average score than pharmacists. Communication and collaboration between the nursing staff and other professionals is usually smooth. According to Mulidan *et al.* (2023), nurses have an excellent comprehension of the responsibilities of other professions, as indicated by their ability to work collaboratively and communicate relevantly based on their expertise. Nurses realise that the clarity of information conveyed to patients has an important impact on the quality of services provided

Pharmacists have low perceptions related to the domain of "*Team Relationships with the Community*". Coordination and exchange of patient information help the team achieve common goals, such as improving the quality of hospital services and increasing patient satisfaction with the services they receive (Kusuma *et al.*, 2021). The large variety of work pharmacists do causes communication limitations with other health

workers. Hospital pharmacists play an active role in providing medicines, counselling, and monitoring patient therapy. However, patients are more familiar with other professions, such as doctors and nurses (Wahyuni *et al.*, 2023)

The domains "*Leadership*" and "*Mission, Goals, and Objectives*" show significant differences in perception among health workers. The complementary paradigm is meant in interprofessional collaboration, where no profession is dominant over other professions. Optimal interprofessional collaboration practices are achieved when leaders explicitly and proportionally divide the roles and responsibilities of each team member (Yusra *et al.*, 2019). Differences in duties in collaborative teams can optimise the experience and talents of health professionals with similar competence, reducing the likelihood of power conflicts amongst professions owing to overlapping positions (MacNaughton *et al.*, 2013).

Implementing interprofessional cooperation methods with clear missions, aims, and objectives positively influences patient safety (Kurniasih *et al.*, 2019). All members of the cooperation team must thoroughly comprehend the patient's service plan and treatment goals. Thus, all team members must meet to discuss the treatment plan to be implemented for patients.

Different work schedules among collaborative team members and a lack of time to assemble might contribute to a drop in the implementation of team collaboration (Viani *et al.*, 2019).

Differences in perception among health workers are affected by innate hierarchical factors connected with health professions, such as distinctions in the scope of practice, a lack of comprehension of roles and responsibilities, and differences in discipline among health workers (Sulistyaningsih, 2021). Poor communication is one of the reasons impeding health worker collaboration (Ita *et al.*, 2021). This is consistent with the findings of Lestari *et al.* (2017), who found that poor communication among health workers is one of the barriers to the implementation of interprofessional cooperation practices. Inadequate communication between health service providers may result in misunderstandings and services falling short of the desired standards, ultimately jeopardising patient safety and health.

Healthcare workers benefit from education and coaching to build effective interprofessional collaboration practices. IPE is a program undergraduate students or health professionals use to understand effective collaboration strategies to increase trust and communication across professions so that patient service becomes more optimal (Sundari *et al.*, 2021). Rabani *et al.*, 2021 stated that IPE provides in-depth knowledge about the role of each health worker and the ability to communicate openly, so IPE becomes an important component that helps health students prepare themselves to implement the patient-centred collaborative practice.

There are research limitations due to the absence of a sample of doctors who act as the main pillars of hospital services. Although this research has limitations, its results are supported by other research, and the authors believe this research contributes to understanding the role of each health worker in implementing interprofessional collaboration.

## Conclusion

According to the study's findings, there are differences in perceptions among health workers regarding Relationships among Team Members, Team Relationships with the Community, Leadership, Mission, Goals, and objectives in carrying out inter-professional collaboration practices, implying that periodic inter-professional collaboration education is required. Competency domain profiles vary between health workers, so this information becomes input for designing appropriate education for health workers.

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## References

- Bosch, B., & Mansell, H. (2015). Interprofessional collaboration in health care: Lessons to be learned from competitive sports. *Canadian Pharmacists Journal: CPJ = Revue des pharmaciens du Canada: RPC*, *148*(4), 176–179. <https://doi.org/10.1177/1715163515588106>
- Irajpour, A., Farzi, S., Saghaei, M., & Ravaghi, H. (2019). Effect of interprofessional education of medication safety program on the medication error of physicians and nurses in the intensive care units. *Journal of education and health promotion*, *8*, 196. <https://pubmed.ncbi.nlm.nih.gov/31807588/>
- Ita, K., Pramana, Y., & Riggo, A (2021). Implementation of interprofessional collaboration between health personnel in Indonesian hospitals: literature review. *ProNers Journal*, *6*(1).
- KARS. (2018). *National standards for medical hospital accreditation edition 1*. Hospital accreditation commission. <https://kars.or.id/ebook-kars/#snars-edisi-1>
- Keumalasari, K., Yetti, K., & Hariyati, R. T. S. (2021). Application of the interprofessional collaboration model in efforts to improve patient safety: A systematic review. *REAL in Nursing Journal*, *4*(2), 65–76. <http://dx.doi.org/10.32883/rnj.v4i2.1222>
- Kurniasih, Y., Sari, R. K., & Santosa, A. (2019). Interprofessional collaboration improves the implementation of patient safety goals. *JHES (Journal of Health Studies)*, *3*(2), 113–120. <https://doi.org/10.31101/jhes.883>
- Kusuma, M. W., Herawati, F., Setiasih, S., & Yulia, R. (2021). Perceptions of health workers in interprofessional collaborative practices in hospitals in Banyuwangi. *Indonesian Public Health Media*, *20*(2), 106–113. <https://doi.org/10.14710/mkmi.20.2.106-113>
- Lestari, Y., Saleh, A., & Pasinringi, S. (2017). Collaborative interprofessional relationships with the implementation of integrated patient progress records at Prof. Dr. HM Anwar Makkatutu Hospital, Bantaeng Regency. *Journal of science and technology*, *7*(1), 85–90. <http://pasca.unhas.ac.id/jurnal/files/7b24b009f152ae74b70c746b942e39a7.pdf>
- MacNaughton, K., Chreim, S., & Bourgeault, I. L. (2013). Role construction and boundaries in interprofessional primary health care teams: A qualitative study. *BMC health services research*, *13*, 486. <https://doi.org/10.1186/1472-6963-13-486>

- Morley, L., & Cashell, A. (2017). Collaboration in health care. *Journal of medical imaging and radiation sciences*, **48**(2), 207–216. <https://doi.org/10.1016/j.jmir.2017.02.071>
- Mulidan, M., & Syaftriani, A. M. (2023). The role of nurses in implementing Interprofessional Collaboration (IPC) in nursing care for Covid-19 patients. *Journal of Nursing*, **15**(1), 321–330. <https://doi.org/10.32583/keperawatan.v15i1.627>
- Rabani, R., Key, M., Morrissey, H., & Ball, P. (2021). Exploring students' perceptions and opinions about an institutional hierarchy of healthcare professionals and its impact on their inter-professional learning outcomes. *Pharmacy Education*, **21**, 19–28. <https://doi.org/10.46542/pe.2021.211.1928>
- Samosir, M. (2021). Interprofessional collaborative relationship between nurse doctors and patients safety at RSBP Batam City. *Initium Variety Journal*, **1**(1), 64–68. <https://journal.medinerz.org/index.php/IVJ/article/view/63>
- Serrano-Gemes, G., & Rich-Ruiz, M. (2017). Intensity of interprofessional collaboration among intensive care nurses at a tertiary hospital. *Enfermeria intensiva*, **28**(2), 48–56. <https://doi.org/10.1016/j.enfi.2016.10.007>
- Susilningsih, F. S. (2017). Socialization of interprofessional collaborative practice models for health services in hospitals. *Dharmakarya: Journal of Science and Technology Applications for Society*, **6**(1), 10–13. <https://doi.org/10.24198/dharmakarya.v6i1.14870>
- Sundari, S., & Rai, H. (2021). Interprofessional education (IPE) improves students's communication skills: A literature review. *The Indonesian Journal of Medical Education*, **10**(2), 177–178. <https://doi.org/10.22146/jpki.52833>
- Viani, E., Yulia, R., & Herawati, F. (2021). Health professionals' perceptions of interprofessional collaborative practices in antibiotic therapy in orthopedic surgery. *Journal of Pharmaceutical & Clinical Sciences*, **8**(3), 296–302. <https://doi.org/10.25077/jsfk.8.3.296-302.2021>
- Wahyuni, K. I., Nita, Y., & Zairina, E. (2023). Perception of healthcare personnel in interprofessional collaborations: A study in two "type c" hospitals in East Java. *Pharmacy Education*, **23**(4), 344–348. <https://doi.org/10.46542/pe.2023.234.344348>
- Winfield, C., Sparkman-Key, N. M., & Vajda, A. (2017). Interprofessional collaboration among helping professions: Experiences with holistic client care. *Journal of Interprofessional Education & Practice*, **9**, 66–73. <https://doi.org/10.1016/j.xjep.2017.08.004>
- Yusra, R. Y., Findyartini, A., & Soemantri, D. (2019). Healthcare professionals' perceptions regarding interprofessional collaborative practice in Indonesia. *Journal of Interprofessional Education & Practice*, **15**, 24–29. <https://doi.org/10.1016/j.xjep.2019.01.005>