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RESEARCH ARTICLE

Perception of healthcare personnel in interprofessional collaborations: A study in two "type c" hospitals in East Java

Khurin In Wahyuni[1,2], Yunita Nita[3], Elida Zairina[3]

[1] Doctor of Pharmacy Program, Faculty of Pharmacy, Universitas Airlangga, Surabaya, Indonesia
[2] Undergraduate Pharmacy Program, Faculty of Health Science, Universitas Anwar Medika, Sidoarjo, Indonesia
[3] Department of Pharmacy Practice, Faculty of Pharmacy, Universitas Airlangga, Surabaya, Indonesia

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Correspondence
Yunita Nita
Departement of Pharmacy Practice
Faculty of Pharmacy
Universitas Airlangga
Surabaya
Indonesia
yunita-n@ff.unair.ac.id

Abstract

Background: The World Health Organisation (WHO) describes Interprofessional Collaboration (IPC) as a comprehensive service provided by several health workers from different professional backgrounds, collaborating with patients, families and communities to provide quality services. **Objective:** To investigate the relationship between professions, gender, length of employment and age with IPC. **Method:** A cross-sectional study was conducted in two type C hospitals in East Java from June to July, 2022. The total sampling technique used involved doctors, pharmacists, nurses and nutritionists. Informed consent was given to all study participants. The Collaborative Practice Assessment Tool (CPAT) questionnaire used a five-point Likert scale which comprising eight domains. **Results:** From the lowest average results for each domain, significant differences were found in the education group with the domain *"team relations with the community, namely the pharmacist profession*". **Conclusion:** Doctors, pharmacists, nurses and nutritionists have different levels of IPC perception in eight domains but there were no significant differences.

Introduction

Collaboration practices have not been optimally carried out due to various constraints in their implementation. These constraints are influenced by authority imbalances, limited understanding of the role of each profession in a team, responsibility, and friction between professions when providing care to patients (Setiadi *et al*., 2017). In addition, there is a presumption that doctors are leaders and decision-makers while other medical personnel are only executors, thereby making the implementation of Interprofessional Collaboration (IPC) practices difficult (Fatalina *et al*., 2015).

One of the obstacles to implementing IPC is that doctors underplay the competence of other health workers in efficiently providing patient care. Such perceptions indirectly further restrict communication between professionals and hinder the practice of such collaboration (Thi *et al*., 2017).

Research in South Africa in 2019, focused on health workers' perceptions, attitudes, and understanding, stated the poor definition of IPC Practice among health workers and administrative staff. This causes health workers to be unable to apply it practically (Kock *et al*., 2021).

A study in Indonesia conducted in 2017, showed that there were no significant differences related to the perception of IPC with a professional background, but there were significant differences in the domain of the barrier component with the professional group of doctors and nurses (p = 0.008) (Yusra *et al*., 2019). The existence of hierarchy and socio-cultural factors causes nurses to feel very different perceptions in terms of barriers when collaborating with doctors (Yusra *et al*., 2019).

Communication is one of the competencies in carrying out IPC practices, where health workers are required to be able to communicate with patients, patient families, communities and other health professionals responsively and responsibly (Yusra *et al*., 2019). Effective communication is very influential in IPC because it can provide a positive side such as increasing patient satisfaction, minimising the occurrence of medication errors, reducing mortality and complications, to reduce the cost of treatment.

In addition, with the existence of IPC, the services carried out become more efficient, and the work environment feels more comfortable. This is one of the most effective efforts and strategies to improve the quality of health services (Rokhman *et al*., 2015). Based on the facts described above, this study aimed to look at the relationship between professions, gender, length of employment and age with IPC.

Methods

Design

This research was a cross-sectional study conducted at two hospitals in East Java (Surabaya and Sidoarjo). The measurement was carried out using the Collaborative Practice Assessment Tool (CPAT) questionnaire instrument (Schroder *et al.*, 2011). The CPAT used was the Indonesian version (Yusra *et al.*, 2019). Distributed face-to-face and online to 119 health workers in two hospitals. Health workers, including general/specialist practitioners, pharmacists, nurses, and nutritionists.

Assessment

The questionnaire used a Likert-5-point scale as follows: strongly disagree=1, disagree=2, not sure=3, agree=4 and strongly agree = 5. In the domain with negative statements, the scale was strongly disagree = 5, disagree= 4, not sure = 3, agree = 2 and strongly agree = 1. The CPAT questionnaire has been tested for validity and reliability (Yusra *et al*., 2019).

The CPAT questionnaire instrument consisted of eight domains with 53 statement items, namely relationships among members (nine statements); team barriers in collaboration (five statements); team relationships with the community (four statements); coordination and role sharing (fourteen statements); decision making and conflict management (two statements); leadership (five statements); missions, goals, and objectives (nine statements); and patient involvement (five statements) (Yusra *et al*., 2019).

Data analysis used univariate analysis to determine the demographic characteristics of respondents, while bivariate analysis to compare the value obtained with the respondent group, namely gender (Mann-Whitney test), age, type of profession and length of service (Kruskal-Wallis test). This research has been approved (Number 560/RSAM/V/2022) and declared ethical by Anwar Medika Hospital (Number 1243/RSAM/VI/2022). A informed consent was given to all study participants.

Results

The majority of respondents' characteristics were in the age range of 21-28 years (60.50%), female respondents (82.35%), respondents professing as nurses (78.15%), and respondents with one to eight years of service (83.19%), as well as undergraduate/professional education (55.46%). This is showed in Table I.

Table I: Demographic distribution of respondents (n = 119)

Categories	Variable	n (%)
Age group	21-28	72 (60.50)
	29-36	36 (30.25)
	37-44	11 (9.24)
Gender	Male	21 (17.65)
	Female	98 (82.35)
Occupation	Doctors	5 (4.20)
	Pharmacists	15 (12.61)
	Nurses	93 (78.15)
	Nutritionists	6 (5.04)
Years of experience	1-8	99 (83.19)
	9-16	17 (14.29)
	17-24	3 (2.52)
Education	Diploma/vocation	49 (41.18)
	Undergraduate/profession	66 (55.46)
	Master's degree/specialist	4 (3.36)

The lowest average perception of the domain "Relationships among Members", "Coordination and Role Sharing", and "*Mission, Goals, and Objectives*" is in the profession of a doctor while "*Team Barriers in Collaboration*", "*Team Relationships with the Community*", "*Leadership*" and "*Patient Involvement*" are in the profession of a pharmacist, but in the domain "*Decision Making and Conflict Management*" there are nutritionists (Table II).

Table II: Distribution of average values of variables based on eight CPAT domains

Variable	DOMAIN* Mean ± SD							
	1	2	3	4	5	6	7	8
Profession†								
p	0.435	0.068	0.173	0.578	0.252	0.341	0.617	0.428
Doctors	39.6 ±2.07	19.0 ±1.41	15.6 ±3.29	59.2 ±4.44	4.6 ±2.19	21.6 ±2.30	38.4 ±2.30	20.6 ±2.70
Pharmacist	39.8 ±4.26	16.9 ±2.95	14. 7 ±3.10	59.8 ±7.59	3.6 ±1.35	20.6 ±2.79	39.2 ±4.43	20.4 ±2.77
Nurse	40.3 ±4.03	17.4 ±3.17	16.6 ±2.62	61.6 ±6.89	4.01 ±1.39	21.5 ±2.61	40.1 ±4.46	21.1 ±2.82
Nutritionist	42.7 ±2.88	20.0 ±2.09	16.3 ±1.37	64.0 ±5.29	3.0 ±0.89	22.0 ±2.68	41.5 ±4.37	22.3 ±2.80
Age†								
p	0.273	(0.314)	0.677	0.326	0.180	0.243	0.535	0.184
21-28 years	40.8 ±3.72	17.4 ±3.15	16.3 ±3.03	62.1 ±6.86	3.7±1.31	21.6 ±2.61	40.3 ±4.33	21.3 ±2.79
29-36 years	39.6 ±4.24	17.4 ±2.99	16.2 ±2.29	59.9 ±6.94	4.3 ±1.54	21.3±2.47	39.6 ±4.63	21.0±2.75
37-44 years	39.4 ±4.39	18.8 ±3.03	16.7 ±1.79	61.4 ±6.15	4.2 ±1.54	20.4 ±3.04	38.9 ±3.83	19.9 ±2.93
Gender‡								
p	0.285	0.644	0.622	0.730	0.354	0.646	0.715	0.405
Male	39.6 ±3.87	17.4 ±2.29	16.7 ±2.54	61.1 ±6.11	4.2 ±1.44	21.6 ±2.22	39.6 ±4.04	20.7 ±2.68
Women	40.5 ±3.98	17.6 ±3.25	16.3 ±2.76	61.5 ±7.01	3.9 ±1.42	21.4 ±2.38	40.1 ±4.46	21.2 ±2.83
Length of employment†								
p	0.403	0.075	0.862	0.233	0.334	0.561	0.993	0.841
1-8 years	40.5 ±3.89	17.4 ±2.99	16.3 ±2.88	61.7 ±7.06	3.8 ±1.34	21.5 ±2.66	39.9 ±4.41	21.1 ±2.84
9-16 years	39.3 ±4.16	18.1 ±3.53	16.5 ±1.62	59.5 ±5.31	4.4 ±1.58	20.9 ±2.41	40.4 ±4.36	20.8 ±2.56
17-24 years	39.0 ±5.29	21.0 ±2.65	17.3 ±2.31	61.3 ±7.57	5.0 ±2.65	22.0 ±2.65	39.7 ±4.73	21.0 ±4.00
Education†								
p	0.792	0.708	0.020	0.510	0.141	0.247	0.852	0.398
Diploma/vocation	40.5 ±3.84	17.4 ±3.47	17.2 ±2.38	62.2 ±6.80	4.2 ±1.33	21.8 ±2.47	40.1 ±4.25	21.4 ±2.45
Undergrad/profession	40.3 ±0.367	17.7 ±2.78	15.7 ±2.86	60.9 ±6.97	3.8 ±1.39	21.2 ±2.69	39.9 ±4.57	20. 9 ±3.09
Master/specialist	39.0 ±4.97	17.0 ±3.92	17.0 ±1.15	59.5 ±5.19	4.8 ±2.50	20.3 ±2.99	39.0 ±2.94	19.8 ±1.26

† Kruskal Wallis Test; ‡ Mann-Whitney Test

*Domain 1: Relationships among Members; Domain 2: Team Barriers in Collaboration; Domain 3: Team Relationships with the Community; Domain 4: Coordination and Role Sharing; Domain 5: Decision Making and Conflict Management; Domain 6: Leadership; Domain 7: Mission, Goals, and Objectives; Domain 8: Patient Involvement

In this study, there were no significant results related to the perception of the profession of health workers, age group, gender, and length of employment with eight IPC domains, while in the education group, there were significant differences with the domain "*Team Relationships with the Community*" (Table II).

Discussion

Research related to IPC in Indonesia is very limited. The perception and acceptance of health workers towards IPC will affect the attitudes among health professionals, so good perceptions and acceptance will support the successful implementation of collaboration among professionals (Fatalina *et al*., 2015).

One research done in a type A hospital in Jakarta, Indonesia, related to IPC in 2017 stated that IPC practice is similar to the hierarchical or traditional model, where the final decision regarding patient care is with the doctor (Yusra *et al*., 2019). Consequently, in Indonesia is characterised by a hierarchical culture, where the position of doctors is at the top and other professional workers are only supporting staff, which leads to the non-execution of the freedom of health workers in contributing knowledge and skills (Setiadi *et al*., 2017).

One of the contributing factors related to collaboration is interactional factors such as effective communication, respect, and the desire to work together (Bardet *et al*., 2015). This factor is part of the domain "*Relationships among Members*" as well as the domain "*Coordination and Role Sharing*" where the

results in these domainsshowed that doctors' perceptions are lower compared to other health workers.

Previous research done in Primary Healthcare Centre in East Java, Indonesia, highlighted the contribution factors in implementing IPC in 2016, one of which is that understanding the identity and role of professionals among healthcare teams is an important pre-requisite in carrying out interprofessional interactions. Also, a lack of understanding between doctors, nurses, pharmacists and nutritionists causes inequality in implementing IPC (Setiadi *et al*., 2017).

Research in North Carolina in 2014 showed that doctors who collaborate with pharmacists could improve the quality of services, but nearly half of the respondents did not agree (Pezzino *et al*., 2017). This is due to a lack of understanding of the roles of the profession in collaboration. The sense of togetherness in the team also supports IPC practices, interpersonal approaches play an important role in fostering cooperation between health workers. The same mission and goal, which is patient-centred, also strengthen interprofessional cooperation, but sometimes because of the hierarchical relationship, the doctors feel that all responsibilities are on them (Soemantri *et al.*, 2019).

The perception of the domains *"Team Relationships with the Community",* "*Leadership"* and *"Patient Involvement"* is lowest in the pharmacist profession, the obstacles in implementing IPC are also more felt by the pharmacists. Establishing a relationship with the community can introduce the pharmacist profession to the community so that the function of the pharmacist can be perceived.

Pharmacists in hospitals play more roles in managing the supply system of pharmaceutical preparations to maintain the availability and reach of drugs (Setiadi et al., 2017). Although pharmacists counsel drugs in pharmaceutical service, patients are more familiar with other professions, such as doctors and nurses. Time limitations are also a cause of low relationships with the community

Pharmacists also have low perceptions related to the "*Leadership*" domain, a hierarchical culture that causes pharmacists to assume that doctors cannot be approached (challenging to work with) (Setiadi *et al*., 2017). The importance of effective communication, information sharing, and clarity can help the implementation of IPC. Historically, doctors provide clinical leadership, but it should not reduce the shared responsibility of all professions in the healthcare team because all health professions have an important contribution to the patient's therapeutic outcome, including leadership and decision-making roles (Setiadi *et al*., 2017).

In the domain related to "*Patient Involvement*", pharmacists have the lowest perception among doctors, nurses, and nutritionists. Pharmacists need to entail patients more in the future while planning health services. The care provided to the patient and the willingness of the patient to participate are key factors for success. Interprofessional work requires changing paradigms because IPC has unique characteristics in terms of values, codes of conduct, and ways of working (D'Amour & Oandasan, 2005).

Nutritionists have the lowest perception in the domain of "*Decision Making and Conflict Management*". This is because nutritionists feel that they must follow all instructions by the doctors. In collaboration practices, doctors appear to make more decisions related to patient care.. Doctors also tend to recognize the importance of knowledge and expertise from health professionals in collaborating (Lancaster *et al*., 2015).

Trust is important in decision-making because one of the factors contributing to the successful implementation of IPC practices is professional support (e.g. common interests, willpower, trust), policy support, interprofessional training, and long-term funding (World Health Organisation, 2010).

This study also showed a significant difference between education and the "*Team Relationships with the Community*" domain. Health workers lower education tend to have awkward feelings when they have to deal with the community, which is caused by the lack of confidence related to the knowledge possessed. Therefore, training in the health profession is needed to increase their knowledge, improving nurse training and organisational support will lead to more effective collaboration between nurses and doctors (Erickson & Clifford, 2008).

Conclusion

Health professions, namely doctors, pharmacists, nurses, and nutritionists, have different levels of IPC perception in the eight domains, but there are no significant differences between the professions in these eight domains.

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