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Exploring Barriers to Interprofessional Collaboration in Public Health Centres in Palu, Indonesia

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ABSTRACT

Interprofessional collaboration (IPC) is an important part of the innovation strategy to overcome the health professional crisis. Most health professionals who currently work at public health centres engage in IPC without receiving training or collaborative learning experience at the undergraduate level, namely interprofessional education (IPE). This study aimed to determine the challenges of interprofessional health collaboration at public health centres in Palu. The researchers purposively visited 10 general practitioners to explore IPC interactions that occurred at their public health centres in Palu by conducting in-depth interviews. This study highlighted that the challenges of IPC at public health centres in Palu included a lack of roles and responsibilities, poor service team coordination, misunderstandings in interprofessional communication, and ethical issues in the health professions. Therefore, it is deemed pivotal to promptly implement IPE for undergraduate medical students at Alkhairaat University to help them acquire the skills needed to enter the health workforce and prepare them for IPC.

Keywords: *Interprofessional collaboration, Public health centre, General practicioner, Interprofessional education, Undergraduate student*

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INTRODUCTION

Interprofessional collaboration (IPC) is increasingly prevalent in public health centres due to the growing complexity of patient needs (1). IPC in public health centres may be defined as the integrated collaboration of various healthcare professionals, combining complementary competencies and skills to use available resources optimally (2). The World Health Organization indicates that collaborative practice among multiple healthcare workers strengthens health systems, enhances patient satisfaction and acceptance of care, and improves patient outcomes (3).

Although several studies have demonstrated the benefits of team-based working, others have highlighted the challenges of implementing it. In many cases, IPC is practised without a clear understanding of its underlying concept (4). This approach is often described as interprofessional interactions that resemble a tangle of activities, tied and untied among different staff members, rather than traditional teamwork approaches that involve regular, more collaborative interactions (5). Lack of knowledge of other professional skills, reluctance to change (6), and absence of interprofessional education (IPE) in health profession curricula (7) have also been reported as barriers to effective IPC. IPE is regarded as a promising strategy to foster mutual respect among health professionals and to enhance their interprofessional knowledge and competencies (8).

While IPC is widely acknowledged for its global advantages, its challenges that exist within Indonesian health centres remain little understood. This study then explored barriers to IPC in community health centres in Palu, aiming to inform future IPE development. The findings are expected to serve as a reference for implementing interprofessionalism within the medical education curriculum of the Faculty of Medicine at Alkhairaat University.

METHODS

Materials and Methods

This study applies a qualitative, inductive interview methodology. Participants' experiences were examined through qualitative content analysis as the primary analytical framework. Data collection took place across multiple public health centres in Palu, Indonesia. This study included public health centres, both individual health units (IHU) and community health units (CHU).

Participant Recruitment

Using a purposive sampling method, this study used a sample of general practitioners working in public health centres. The inclusion criteria included: (a) general practitioners from public health centres in Palu City; (b) having been involved in IHU and CHU; and (c) having at least one year of work experience in a public health centre. The participants were recruited according to the predefined inclusion criteria and were provided with an information sheet and an informed consent form to confirm their willingness to take part in the study. Ethical approval for the study was obtained from the ethics committee of the Faculty of Medicine, and formal invitations were sent to 10 public health care centres in Palu. In total, 10 general practitioners agreed to be interviewed and were included as informants in this study. Two participants were under 30 years of age, and 8 were aged 30

years or older. All participants were general practitioners working at public health centres; eight participants had IHU programme responsibilities, and two participants had CHU programme responsibilities. The background data of these participants are provided in Table 1.

Table 1: Informants' characteristics

Informant	Age	Gender	IHU/CHU
Informant 1	28	W	CHU
Informant 2	29	M	IHU
Informant 3	33	W	IHU
Informant 4	33	W	IHU
Informant 5	32	W	IHU
Informant 6	31	M	CHU
Informant 7	32	W	IHU
Informant 8	30	W	IHU
Informant 9	30	M	IHU
Informant 10	32	W	IHU

Data Collection

The first author developed a semi-structured interview guide consisting of open-ended questions. The questions explored IPC at each participant's public health centre and encompassed all relevant services. The guide was subsequently reviewed and refined by two experts in medical education. Several changes were made after conducting initial interviews, and several questions were revised to fit the research objectives of the open questions in Table 2. Data were collected through individual, in-person interviews conducted solely by the first author. The first author had no previous relationship with the informants. They were informed that the first author is a registered student of the Master's Programme of Medical Education at Hasanuddin University. Each interview was audio-recorded, with durations ranging from 50 to 120 minutes. No field notes were taken during the interviews. The first author completed the verbatim transcription in collaboration with a professional transcriber.

Table 2: Interview guide used in the individual interviews

Number	Questions
1	What do you know about interprofessional collaboration?
2	How is interprofessional collaboration practised in your public health centre setting?
3	What are the enabling factors for interprofessional collaboration in your public health centre setting?
4	What are the inhibiting factors for interprofessional collaboration in your public health centre setting?
5	Which health professions interact most in health services?
6	In your experience, what are the health challenges that require the role of interprofessional collaboration?
7	In your opinion, what is the role of collaboration between health professionals in carrying out their duties?

Data Analysis

Data were analysed using inductive qualitative content analysis to uncover emerging patterns. Audio recordings of all interviews were transcribed word-for-word, and the transcripts were carefully verified to ensure their accuracy. The transcripts were read repeatedly, and segments relevant to the research objectives were coded. As the analysis progressed, a preliminary coding framework was developed and iteratively refined, with subsequent transcripts compared against it and new codes added when necessary. The codes were then compared across interviews, grouped into subcategories, and organised into broader categories. The data collection and analysis were performed in parallel, and data saturation was achieved. Coding was supported by MAXQDA Analytics Pro 2020. Table 3 presents an example of the analytical process applied in this study. The first author conducted data analysis, together with a Medical Education lecturer and a psychology lecturer experienced in qualitative research. Through researcher triangulation, the team engaged in iterative discussions to refine interpretations and confirm that the data robustly supported the findings.

Table 3: Analytical process

Meaning units	Code	Subcategory	Category
Sometimes they do not understand that their patients did not understand the prescriptions from their nutritionist. The nutritionist often only said to the patients to have less sugar or less sweet food/ beverages. However, the patients need something more practical, such as what's sweet, anyway? For example, reduce the amount of white rice or limit the consumption of sugar to a maximum of one teaspoon. That is the kind of guidance they are looking for. Nevertheless, the nutritionist often writes down 'reduce sugar or exercise regularly' without giving a clear and understandable explanation.	Role and responsibilities competency	Suboptimal role	Suboptimal role and responsibilities
For example, if it is an activity that requires going to the field, this activity should have laboratory people involved, but in reality, they are not included. Because he is in charge of the programme, he does more jobs, so he is the one who goes out to see the patient, and the laboratory assistant is not involved. And only after he protests, the laboratory assistant is involved, and sometimes the assistant is still forgotten.	Work and teamwork competency	Less involvement of other professions	Less team coordination in practice

METHODS

This study examined the challenges of IPC in public health centres in the city of Palu. Data were collected from 10 semi-structured interviews with 10 general practitioners. Inductive qualitative data analysis resulted in four categories: (a) lack of roles and responsibilities; (b) lack of service team coordination; (c) misunderstandings in interprofessional communication; and (d) ethical issues of the health professions. Each category comprises two subcategories, as seen in Table 4. The findings are presented in the form of categories and subcategories, supported by select participant quotations.

Table 4: Analytical categories and subcategories identified in the study

Categories	Subcategories
Lack of roles and responsibilities	Inadequate role
	Excessive work duties
Lack of service team coordination	Less involvement of other professions
	Many funding shares
Misunderstandings in interprofessional communication	Miscommunication between health workers
	Not confirming attendance (late/absent)
Ethical issues in healthcare professions	Disrespectful senior workers
	Professional ego

Lack of Roles and Responsibilities

Participants reported difficulties related to the execution of professional roles. Even though the boundaries of each profession's role were well understood, they were not always enacted as expected in daily practice.

Inadequate role

Some professionals were perceived as not diligently performing their designated tasks, which created uncertainty about whether specific components of care had been delivered.

> It is a bit difficult to monitor, Doc. We are in the clinic room, while they are in the pharmacist's area. We don't know whether they have really provided education, so we cannot be sure either. (Informant 4)

Excessive work duties

Gaps in role performance mean that other staff, often doctors, had to assume additional responsibilities, particularly in the context of limited staff numbers.

> Well, when there are two of us on duty, one of us has to be the doctor, and the other can be anyone, as long as there is someone to accompany the doctor. So, if there are only the two of us, we doctors usually end up handling the other work because the others do not come in, so we take over their tasks. (Informant 3)

Lack of Service Team Coordination

The participants described limited coordination within teams, especially in relation to planning and implementing programmes.

Less involvement of other professions

Programme coordinators did not always involve other relevant professions, even when their contribution was required for field activities.

> When there are outreach activities in the field, the laboratory staff should actually be involved, but they are not, because the programme holders include themselves first. Only after complaints are made are the laboratory staff invited to join, but after that, they are often not involved again. (Informant 8)

Many funding shares

Some participants perceived that limited funding discouraged programme holders from inviting additional professionals to participate in activities.

> Actually, they want to involve us (doctors) too, but usually they are afraid the funds will not be sufficient, so they do not invite us. (Informant 3)

Misunderstandings in Interprofessional Communication

Communication challenges between professions were frequently mentioned as a source of misunderstanding and tension.

Miscommunication between healthcare workers

Several participants described situations where changes to prescriptions or treatment decisions were made without prior consultation with the responsible doctor.

> After the consultation, the patient is sent to the pharmacy counter. Usually, we, the doctors, prescribe drug A, but if drug A is out of stock in the pharmacy, they change it to another drug without confirming with the doctors first. Sometimes the pharmacy staff change the medicine but do not check back with the doctors. (Informant 2)

Not confirming attendance (late/absent)

The participants also highlighted a lack of clear communication regarding staff lateness or absence, which created confusion about who was available to provide services.

> Midwives who are meant to be backed up sometimes pass on the information late, so the midwives who are supposed to back them up end up not being prepared. (Informant 10)

Ethical Issues in Healthcare Professions

The participants raised concerns about interpersonal attitudes and professional conduct that affected collaboration.

Disrespectful senior workers

Some senior staff from other professions were perceived to be rudely ordering younger doctors.

> Staff from other professions sometimes think that we, as junior doctors, are still young, so they feel they can order us around. For example, older nurses or midwives can be a bit impolite. (Informant 2)

Professional ego

Participants described instances in which professionals acted independently without consultation, reflecting a sense of professional ego and contributing to tension.

> Professional ego is still there, for example, in consultations between doctors and midwives about suturing patients with perineal rupture. Sometimes, when it should really be managed by a doctor, the midwife goes ahead and does the suturing without consulting the doctor first [...]. So, there is definitely a professional ego, like, "Oh, I can do this without the doctor being there", but in the end, the responsibility always falls on the doctor. (Informant 9)

DISCUSSION

IPC refers to the ongoing process of establishing and maintaining effective professional relationships among students, practitioners, patients, clients, families, and communities to facilitate optimal health outcomes (9). The following are the four core competencies of IPC: (a) roles and responsibilities, (b) teams and teamwork, (c) interprofessional communication, and (d) values and ethics (9).

Inadequate Roles and Responsibilities

The participants' accounts showed that despite formally defined professional roles, they were not always enacted as intended in practice. This aligns with previous work suggesting that unclear or weakly enforced role boundaries, together with limited interaction and information sharing, are indicative of poor collaboration between professionals (10). The overlapping responsibilities identified in this study reflect the conceptual insights of D'Amour et al. (11), who noted that unclear role boundaries, particularly in relation to medication management, have been reported to create confusion and tension among healthcare professionals. Our findings from Palu further illustrated this issue, as doctors were frequently required to take on tasks belonging to other health professions.

These challenges are exacerbated by staff shortages, which are known to increase workloads and strain collaborative practice (12). Clear rules and procedures, as highlighted by participants, may help professionals understand their respective contributions and negotiate shared responsibilities more transparently (13). Clear regulations, sufficient staffing, and adherence to agreed roles and responsibilities may support more effective IPC.

Lack of Service Team Coordination

The reported lack of coordination within teams reflects broader challenges in organising care for increasingly complex patient needs. Teamwork and IPC are widely regarded as key strategies for the effective organisation of health services, as they allow the integration of different professional perspectives and skills (14). Over the past decade, IPC has been recognised as an important approach for improving patient care (15). In many primary care systems, general practitioners act as care coordinators (16), often bearing responsibility for treatment decisions and communicating diagnoses and test results to patients (17). The findings suggest that in Palu, this coordinating role is not always supported by adequate structures for shared planning, involvement of relevant professions, or transparent

allocation of programme resources. This resonates with recommendations to strengthen primary care through improved access, patient-centredness, coordination and collaboration, financing, and information and communication technology systems (18).

Misunderstandings in Interprofessional Communication

Communication difficulties between professions are a prominent theme in this study and are consistent with the literature that links effective communication to successful IPC across care settings (19). The participants' experiences of unilateral changes to prescriptions and poorly communicated absence or lateness illustrate how gaps in communication can disrupt workflows and undermine trust. The informants' emphasis on communication and coordination skills as essential to collaboration echoes findings from other Indonesian studies, where communication systems have been identified as key determinants of collaborative practice (20). Indirect communication channels, such as messages relayed via nurses or telephone calls, particularly regarding prescriptions, may increase the risk of misinterpretation and highlight the need for more structured interprofessional communication mechanisms (13).

Ethical Issues in Healthcare Professions

The ethical and attitudinal challenges described by the participants, such as professional ego and perceived disrespect from senior staff, point to the importance of values and culture in shaping collaborative practice. Similarly, Indonesian literature also highlights the cultural contexts can influence values, beliefs, and attitudes in collaboration, as well as perceptions of professional competencies (20). Previous research has shown that pharmacists may feel that their expertise is undervalued by physicians, leading to discomfort and doubts about their credibility in collaborative settings, while younger doctors may hold more positive views of pharmacists' roles (13). Ethical and value-related issues in this study are linked to hierarchical structures that foster perceptions of disrespect and superiority.

These findings underscore the need to address professional values and mutual respect explicitly within health profession education. From a pedagogical perspective, IPC should be introduced more systematically at the undergraduate level (21). IPE is increasingly advocated as a paradigm for improving collaboration among health professionals by fostering a shared understanding of roles, communication skills, and ethical conduct (22).

DISCUSSION

This study revealed a range of IPC challenges in healthcare settings. When collaborative practice involving multiple health professionals is effectively implemented, it can strengthen healthcare systems, enhance patient satisfaction and acceptance of care, and improve patient outcomes. It is therefore important to understand the issues faced by primary healthcare professionals in Palu to identify opportunities for improvement. The findings of this study suggest that challenges in IPC are closely linked to the level of awareness each individual brings to interprofessional interactions. IPC is frequently implemented in practice, but its underlying concept is not always well understood. Consequently, there is a need for educational initiatives that introduce future health professionals to both practising and interprofessional principles, so that upon entering the workplace, they already have some experience and can minimise gaps in IPC in health services.

The Faculty of Medicine at Alkhairaat University has not yet specifically developed IPE across healthcare professions within its curricula. Implementing IPE for undergraduate medical students at Alkhairaat University is considered pivotal, as it is expected to help them acquire the knowledge and skills needed to engage in collaborative practice and, ultimately, improve the quality of healthcare services.

Limitations of the Study

This study may contain potential biases as the participating informants may have homogeneous characteristics in terms of professional background, which was limited to general practitioners in this regard. Because of this single profession, the findings may not fully reflect the perspectives of other healthcare professionals. Despite these limitations, the thematic data analysis was conducted with the aim of extending this study by developing IPE in its curriculum at the Faculty of Medicine, Alkhairaat University in Palu.

CONCLUSION

This study identified various challenges in IPC within healthcare settings. Effective collaborative practice can strengthen healthcare systems, improve patient satisfaction, and enhance patient outcomes. Understanding the challenges experienced by primary healthcare professionals in Palu is important for identifying opportunities to improve collaborative practice in increasingly complex healthcare services. Although IPC is widely implemented, its core concepts are often not fully understood. Therefore, IPE is needed to provide healthcare students and professionals with early learning experiences and collaborative competencies before entering professional practice. In response to this need, the Faculty of Medicine at Alkhairaat University will build into its curriculum IPE at the undergraduate level to support the development of collaborative skills and improve the quality of healthcare services.

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ETHICAL APPROVAL

The study received ethical approval from the Health Research Ethics Committee of the Faculty of Medicine, Hasanuddin University (Protocol No. UH24040210), ensuring that all research procedures complied with established ethical standards.

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