Development of cooperation among health student teams in interprofessional education in geriatrics: literature review

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Abstract
Quality services for health workers can be achieved through collaborative practices among health workers. One effort to realise effective collaboration among professions is to establish collaborative practices early on through the learning process so that students have the knowledge and experience of how to work together as a team. The implementation of Interprofessional Education (IPE) is developed based on the complexity of patient problems, one example of which is Geriatric IPE. This research aims to determine the development of teamwork among health students in Geriatric IPE. The method used was a literature review, which used three database with high and moderate quality criteria, namely Ebsco, ProQuest, and Science Direct. Team development in Geriatric IPE includes planning nursing transition formulation, problem-based learning, Interprofessional Team simulation, the Health TAPESTRY program, and the GITT program. IPE has a positive impact on developing integrated care skills by uniting healthcare professionals, thereby reducing treatment problems in elder patients.

Keywords: geriatric interprofessional education; interprofessional education; team development

1. Introduction

Health workers are required to provide quality health services in today's global era. Quality services can be achieved through collaboration between healthcare professionals. These professionals include nurses, doctors, dentists, midwives, pharmacists, dieticians, and public health workers (Kusumaningrum & Anggorowati, 2018). The increasing number of professional healthcare workers is expected to be involved in future care, given the trend of increasing life expectancy worldwide and patient safety (Keijsers et al., 2016).

Collaboration between health professions in Indonesia is still far from ideal. There is still overlap between the roles of different health professions. One of the reasons for this as a lack of understanding among health professionals about competencies of other health professions, or a lack of communication between health workers in teamwork and collaboration (Kusumaningrum & Anggorowati, 2018).

The importance of implementing collaboration among health workers to improve the quality of health services (Barr, H,et al., 2015). Collaborative practices can also reduce the number of complications, length of hospital stays, conflicts between healthcare teams, ineffective communication and mortality rates. A lack of good collaboration between healthcare workers will have a negative impact on patients, waste resources and reduce job satisfaction (Sulistyowati, 2019).

One of the efforts to realise effective collaboration between professions is by implementing collaborative practices early on through the learning process. Interprofessional collaboration skills must be discovered and trained early on, starting from the lecture stage, so that students have the knowledge and experience of how to work well in a team with other professions before they enter the workforce (Isna, 2017). The first Institute of Medicine (IOM) conference recommended that all health education providers be required to encourage interprofessional collaboration among health professions within healthcare teams (Cox et al., 2016) Interprofessional education is an effective way to develop collaborative skills among healthcare professionals who will be ready to work together to provide comprehensive care in various healthcare services (Hall & Zierler, 2015).

The implementation of IPE is developed based on the complexity of patient problems, one example of which is Geriatric IPE. The Geriatric IPE implementation program is believed to prepare practitioners for effective teamwork, which is particularly important for collaborative, patient-centred geriatric care (Aronson, 2020). Many patients often present with complex problems, requiring the involvement of the

entire team in finding comprehensive solutions, as the knowledge of individual team members from training in only one discipline is often insufficient (Schapmire et al., 2018).

This shows that providing good care for all elderly patients cannot be achieved individually but must be done as a team. The development of Geriatric IPE implementation is very useful in preparing health workers who are able to work together as a team when providing services to geriatric patients who have very complex health problems. Teamwork is one of the competencies that must be fulfilled in IPE implementation. Due to the importance of teamwork in Geriatric IPE implementation, it is necessary to conduct a literature review aimed at finding out how to develop teamrowk among health students in Geriatric IPE?

2. Method

The literature search was conducted in April-May 2024. The data used in this study were secondary data. The literature search in this literature review used three databases, namely Ebsco, ProQuest, and Science Direct. Articles or journals were searched using keyword and Boolean operators (AND, OR, NOT, or AND NOT). The keywords in this literature review were adjusted to PCC (Population, Concept, Context) and consisted of the following: **P**: Healthcare Student, **C**: Teamwork OR Collaboration, **C**: Interprofessional Education in Geriatrics OR IPE Geriatrics. The inclusion criteria for this literature were: Healthcare students, Teamwork OR Collaboration, Developing Interprofessional education in Geriatrics, Publication years 2015-2024. Based on the results of the literature search through publications three databases and using keywords that have been adjusted to PCC, the researchers obtained 524 articles that matched the keywords. The results of the study article selection can be illustrated in the Flow Diagram below:

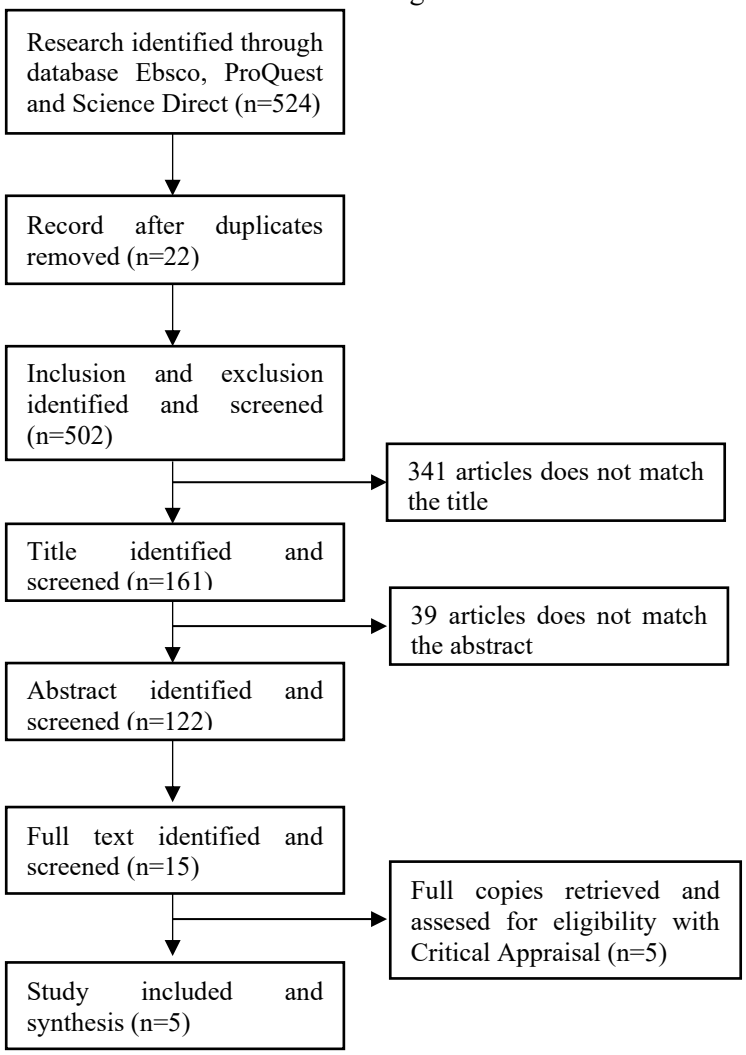

Figure 1. Diagram Flow Chart

3. Results and Discussion

Table 1. Results of Literature Study

Authors and years	Study design, sample, variable, instrument, analysis	Outcome of analysis factors
Sykes S., et al, 2017	Design: mix–method design and The study design was based on the Kirkpatrick model of Evaluation. Sample: 91 sample (n = 44 before) dan (n = 47 after). Variable: Enhancing Care Transitions for Older People through Interprofessional Simulation. Instrument: Questionnare Kirkpatrick model of evaluation Analysis: Using thematic analysis	Post-course, participants identified learning points and at the interviews, similar themes with examples of application in practice were: Understanding individual needs and empathy; Communicating with patients and families; Interprofessional working; V across settings to achieve effecti transitions
Thomson S., et al, 2020	Design: Mixed methods Sample: 300 medical and 150 nursing students. Variable: Interprofessional education in geriatric Medicine. Instrument: Questionnare: Readiness for Interprofessional Learning Analysis: Quantitative: analysed with a Wilcoxson signed-rank test by LCF. Qualitatife: NVivo V.10.	The study looked at the perception of roles and expertise of the 'other' profession in interprofessional teams, and students' choice of topics for future sessions. Students' expectations, experience, learning points and the influence on the understanding of IP collaboration, as well as their readiness to participate in such education again were investigated.
Farrel W. T., et al, 2018	Design: This mixedmethods study used a crossover design. Sample: 66 sample. Variable: Individual versus interprofessional team performance in formulating care transition Plans. Intrument: GT– Osve Analysis: using a paired t-test.	These results suggest that high-quality interprofessional care transition plans may require advance instruction as well as teamwork in finalising the plan
Ploeg et al., 2019	Study design: qualitative Sample: 32 older adults participated in this study Variable: Health TAPESTRY Instrument: Interviews were audio-taped, transcribed verbatim and then transcripts were coded independently by RKV, LC, NF, FP and JG. NVivo V.10 was used to organise data Analysis: Data were analysed using the constant comparative approach.	Programmes Health TAPESTRY for older adults
Giuliante et al., 2018	Study design: triangulation mixed-methods design Sample: 65 participant Variable: Geriatric Interdisciplinary Team Training 2.0 Instrument: The Assessment of Interprofessional Team Collaboration	Geriatric Interdisciplinary Team Training 2.0

Authors and years	Study design, sample, variable, instrument, analysis	Outcome of analysis factors
	Scale (AITCS) Analysis: The AITCS survey data were analyzed usingdescriptive statistics. The team did not complete a one-way ANOVA to compare responses between health professions groups because the variances in responses were not homogeneous. For the qualitative data, general thematic analysis using an open coding approach guided analysis.	

Based on table 3.1, five articles met the inclusion criteria (Figure 2.1) and were divided into-discussions based on the literature review topics, namely Interprofessional Teamwork (2 studies) and Interpofessional Education Geriatrics (IPE) (3 studies). The research methods used in several studies were mixed-method and qualitative designs. The average focusing on interprofessional teamwork and Geriatic IPE. Studies that were suitable for systematic review were conducted in several places, including two studies in London by Sykes S., et al, (2017) and Thomson S., et al, (2020), then in the United States (Farrel W.T., et al, 2018), two studies from Ontario, Canada, conducted by Ploeg et al in 2017 and 2019, and the last by Giuliante a tal, (2018) in New York, USA. The respondents in this study were health students who received IPE interventions for the elderly in each country where the research was conducted. Master's students in nursing, medicine, bachelor's students in nursing, master's students in nutrition, pharmacy, and master's students in social work (Farrell et al., 2018).

Five articles met the inclusion criteria and were divided into sub-discussions based on the topic of the literature review, namely Interprofessional Education Geriatric teamwork. The research methods used were a mixed-method design and a qualitative design. The respondents in the articles were health students who received IPE intervention in the elderly in each country where the research was conducted.

Farrel W.T., et al, (2018) conducted a study to analyse interprofessional training participants as individuals and as teams and to formulate care transition plans during GT-OSVE training. The main objective of this study was to compare the quality of care transition plans produced individually with the quality of nursing transitions made by teams. The secondary objective was to compare the quality of the team process with the overall team performance and the quality of the team's caretransition plans. The results of the study showed that the team process and team performance were excellent in the care of the elderly. Several types of effective team processes were identified: appropriate leadership by the most experienced member as agreed by the team, rapid consensus with fluid contributions from all members, and provision of summaries to othe team members. In addition, ineffective team processes were characterised by passive involvement or dominant leadership.

These findings indicate that the quality of care transition olans does not vary between individuals and teams. Qualitative study results show that teams that have never worked together before can still function effectively, and expert assessors also found to ask delegation, team member accountability, and the completeness of nursing transition plans. Attitudes towards interprofessional teamwork have previously been shown to be a barrier to team-based training, with negative attitudes among health professionals, trainess, and educators from each profession.

However, team processes in education and interprofessional practices are skill that can be taught (Tomizawa, Shigeta, & Reeves, 2017). Therefore, in forming a team to achieve the desired transition, skills in team building are necessary. When providing interprofessional education, i tis important to consider which trainees will come together in interprofessional activities and for what purpose. There is a consensus that basic interprofessional competencies, such as knowledge of other professions roles and responsibilities, are best taught among more novice students, with further training focusing on the team process steps mentioned above (Cox et al., 2016).

The next development was carried out by Thomson S., et al, (2020), which conducted a development study based on Interprofessional Education case scenarios. The teaching sessions were

facilitated by experienced practitioners or educators, namely clinicians (either geriatric consultants or registrars) and senior nurses. A statistically significant imrpovement was found after IPE in both nursing and medical students, indicating that teamwork and collaboration significantly improved in the implementation of interprofessional geriatric care. Through a good understanding of the roles of participants, namely nurses or doctors, through observation and mutual exploration between participants in cooperative learning and collaborative practice between more experienced participants and newcomers, where more skliied and experienced participants assist other participants who do not yet have these competencies.

Case scenario discussions in the form of films, group work and discussions are useful learning activities for focusing attention and improving competence in geriatric care. IPE meetings between health workers in hospitals and community health services can improve health workers' understanding of each other's work situations. This Problem Based Learning (PBL) can encourage each group member to share experiences with one another, leading to the transformation of an effective and well-functioning interprofessional team. Meeting Point can represent an area for interprofessional simulation that focuses on client participation in transitional care. Learning activities contribute to awareness of the importance of information and the involvement of clients and families (Dyrstad & Storm, 2017).

The development of the Geriatric IPE team can be achieved through PBL-based workshops using standardised and relevant case scenarios in geriatric practice, which are then formulated into learning objectives in the curriculum. The learning session consists of 30-45 minutes of introduction by senior nurse. This is followed by 2 hours of independent learning and a session facilitated jointly by nurses and geriatric experts, with the aim of facilitating professional socialisation and collaboration through constructive discussions about skills required of each profession when caring for geriatric clients. This can increase the awareness of each team member and imrpove knowledge about roles in a multidisciplinary team (MDT) (Thompson et al., 2020).

Team development by Sykes S., et al, (2017) conducted a study supporting an integrated care model for the transition of elderly care from hospital to home. A trial and evaluation of an interprofessional simulation course for care and social professionals from various settings involved in the transfer or discharge of elderly patients. This study also explains the importance of teamworks, as several respondents stated that support from more experienced colleagues would help others to identify better family involvement, thus requiring good communication. Excellent communication within the team can improve patient care transitions. The research results also mention that engaging simulation delivery can enrich learning because it provides opportunities to reflect on and discuss correct practices in real life, supporting previous findings that the realism of simulation scenarios has an impact on learning.

The starting point for the project by Sykes et al. (2017) was the identified need to educate healthcare professionals involved in the transition of care from hospital to home for elderly people with complex needs, within an integrated care system. High quality transitional care is essential for elderly clients with various chronic conditions and complex care needs. Initiatives to improve transitional care should focus on the people involved and how they can work together effectively. Sykes et al. (2017) used training as one simulation to improve transitional care. There are six areas of need identified, namely patinet and family involvement; interprofessional work; integrated work; communication and documentation; assessment; and discharge processes. This shows that with the training provided, the team will learn more about each other's roles in the team and the provision of services and resources that can be utilised in healthcare services.

The study shows that simulations involving teams of health and social care professionals from across hospitals and communities lead to collaborative and integrated work in service delivery. Collaborrative practices create safe, high-quality, patients-centred care. Collaboration is a complex process, but i tis essential in interprofessional practice as it promotes mutual trust, respect and effective communication through interaction between the professionals involved. Similary, integrated care creates trust and mutual respect among professionals and helps to identify important issues through relationships and evironments that support collaboration and performance.

The team development carried out through a programme by Ploeg et al., (2019) namely Health Teams Advancing Patient Experience: Strengthening Quality (Health TAPESTRY) is an innovative primary care needs of clients, which also optimises the elderly. Older adults can gather information for their primary care team using the "TAP-App" on a computer or tablet. The information collected, which

includes health risks, client needs and goals, is summarised in an electronic report that is transferred to their primary care electronic medical record. An interdisciplinary team reviews the report and follows u pon the goals by developing a care plang to adress the identified health riks. Clients are also given access to their electronic personal health records (PHR) so they can track their own medical information in health modules (e.g., medication trackers and immunisation records) and have better access to their primary care team through secure messaging.

Then, Health Teams Advancing Patient Experience: Strengthening Quality (Health TAPESTRY) is an innovative primary care programme that improves care coordinator for clients (Ploeg et al., 2019) This is line with Dolovich et al., (2016) elderly care centred on community-based primary care, encouraging person-centred and promoting optimal ageing through four interconnected components: trained community volunteers, interprofessional healthcare teams, Health technology, and community engagement.

Home visits are conducted by volunteers, usually older individuals and ypunger students. They receive training on how to interact with older adults with complex health needs and help them set personal health and life goals (Ploeg et al., 2019). Two interprofessional teams consist of nursing practitioners,occupational therapists, system navigators, Registered Practical Nurses (who have completed a 2-year college programme in Canada, i.e., not preparing for a bachelor's degree), dietitians, pharmacists, and physiotherapists. TAPESTRY Health provides a unique opportunity to explore practical learning experiences for students outside of traditional primary care. Nursing students enrolled in the Communityt Professional Practice Nursing course are placed in the TAPESTRY Health programme for their practicum (Dolovich et al., 2016).

Nursing students are involved in community health practice activities, such as conducting community assessments and exploring relevant health and social community services. These activities account for approximately 25% (18 hours) of total clinical hours. For the reminder of the course, nursing students participate in delivering the TAPESTRY Health programme. They complete standard volunteer training, which includes online modules, face-to-face training, and practice through role-playing and technology used in the rpogramme. They are then paired with trained and experienced community volunteers and professionals. They conduct home visits with elderly clients. During these visits, they use TAP-App on a tablet computer to determine the client's health goals and needs. The results are automatically summarised into a client report, including a brief narrative summary of key observations made by the student or volunteer colleague regarding the client and their social context. The digital report is sent to the electronic medical record for review by the primary care team each week (Oliver et al., 2018).

The next study on team development was conducted by Farrel W.T., et al, (2018) on Geriatrics Interdisciplinary Team Training (GITT 2.0), an innovative programme that brings together students and healthcare professionals to apply the quality initiatives and experiences that interprofessionals teams bring to elderly-centred care. This programme provides new resources to assist academic and healthcare organisations implementing interprofessional education and practice. Interprofessional team members analysed the list of medications prescribed after the elderly were discharged from hospital. This aimed to reduce duplicate medications, eliminate medications without clear indications, reduce medication dosing regimens by switching to long-term medications where possible, and reconcile medications not included in the list of medications that should have been included. The team also discusses other medication management issues including compliance, educational deficits, costs and insurance issues, compensating for cognitive deficits, promoting caregiver involvement, and keeping appointments. This involves ongoing communication and collaboration among interpofessional team members, home care patients, families, and elderly caregivers.

The article also discusses team performance in formulating transition care plans for geriatric patients. Training is conducted based on the GT-OSVE sheet, which is an assessment sheet that focuses on transition care practices by measuring teamwork skills (Farrell et al., 2018). There are two domains in GT-OSVE, namely transition care and team process measurement. The items measured in transition care are patient-centred medical records (past medical history, patient's ability to manage their medical condition); medication management (reconciled medication, discussing the medication list with the patient, caregivers and other parties involved in the client's care, strategies discussed for medication management); identification of risk factors that could lead to readmission to hospital (proposing

appropriate care interventions); primary, specialist and follow-up care (identifying necessary follow-up with healthcare providers, identifying appropriate community resources); barriers affecting transition care interventions (mood, sensorium, health literacy, functional status, advanced directive status, finance, social support and nutririon).

Meanwhile, the thngs measured in the team process are the leader's support in developing transition interventions (the extent to which the leader carefully considers other points of view, the extent to which the leader accepts input from others, the clarity of the leader's instructions to team members), the leader's skills in developing transition interventions (the extent to which leaders keep discussions on track, the extent to which leaders appropriately prioritise action items in transition interventions) and team characteristics (feelings of cohesion within the group, the extent to which individuals are aware of what is happening within the group, the extent to which the group functions as a team).

This is in line with Dyrstad & Storm (2017), who state that quality of healthcare involves several dimensions,namely safety, effectiveness, patient-centredness, timeliness, efficiency and equity. In this study, transitional care refers to transitional care at home with care services or from a nursing home to a hospital and vice versa. The simulation conducted included an introductory phase covering thematic information about the area and an objective patient perpective, lasting 15 minutes. This was followed by a 45-minute theoretical session on the patient's perpectives during hospital admission, stimulate individual reflection during transitional care, and engage participants in group discussions about current care practices, challenges, and efforts to improve these challenges. The next stage is a simulation scenario through a 10-minutes film showing the patient's perpective in transitional care and notes from patient observations. After that, each group discusses the scenario that was previously shown.

4. Conclusion

From the results of the literature review that the researcher has conducted, 5 models of geriatric IPE team development were obtained, namely planning for formulating nursing transition, team development models with PBL team development models with simulation, team development models with Health TAPESTRY and team development models with GITT 2.0. From the five IPE team development models, it was found that IPE has a positive impact on developing integrated care skills by uniting health professionals so that they are able to overcome gaps in interprofessional care practices so that they can reduce treatment problems in geriataric patients.

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