

# THE EFFECTIVENESS OF INTERPROFESSIONAL COLLABORATION PRACTICE IN OPERATING ROOM: A SYSTEMATIC-LITERATURE REVIEW

Dzakiyatul Fahmi Mumtaz <sup>1\*)</sup>

<sup>1</sup>Lecturer, Faculty of Health Science, Universitas 'Aisyiyah Yogyakarta

## Abstract

*Interprofessional Collaboration Practice (IPCP) is a process when several different health care professionals provide comprehensive health services, working together with patients, patients' families, nurses (caregivers) and the community to provide excellent quality care. IPCP is a team-based care action that focuses on improving the quality of patient and family services but is still limited to being applied in hospitals, especially in the operating room. The purpose of this study was to determine the application of Interprofessional Collaboration Practice (IPCP) in the operating room. This research is a descriptive analytic study with a systematic-literature review design. The databases used are Scencedirect, Pubmed, Sage and Spingerlink using the search keywords "Interprofessional Collaboration Practice Implement\* AND adult patient AND operat\* room AND improved patient health status". Determination of scientific articles using the PRISMA Flow Diagram method by determining scientific articles according to research inclusion criteria. The results of this literature review were reviewed in full and founded 4 articles on the effective application of IPCP in reducing the incidence of Surgical Site Infection (SSI) and stimulating an increase in the quality of care provided by the IPCP team to patients with a history of surgery. Interprofessional Collaboration Practice (IPCP) is effective in reducing Surgical Site Infection (SSI) and improving the quality of care for patients in operating room.*

**Keywords:** *Interprofessional Collaboration Practice; IPCP; Operating Room; SSI*

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\*) Corresponding author:

Email: [dzakiyatulfahmi@unisayogya.ac.id](mailto:dzakiyatulfahmi@unisayogya.ac.id)

## 1. Introduction

Interprofessional collaboration Practice (IPCP) is the process by which different groups of health and social science professionals work together in patient care. (Reeves, S., Pelone, F., Harrison, R., Goldman, J., Zwarestein, 2017). The World Health Organization (WHO) globally calls for the use of IPCP as a core approach to improve the quality and safety of patient care (World Health Organization, 2010). IPCP innovation will shape the practice of professionalism associated with inter - professional collaboration, patient-centred and team-based care to provide coordinated health services (Ketcherside, Rhodes, Powelson, Cox, & Parker, 2017). Cooperation and mutual communication will provide different perspectives in the health team on health problems and ultimately can offer more holistic patient health solutions (Chan & Wood, 2010). Most members of the clinical health care team in health services can provide and coordinate health care and education for patients and families and develop medication and follow-up care plans. (Bureau of Labor Statistics, 2016).

The reality on the ground that collaboration, communication and coordination of care is very limited in the health system in health services (Kenaszchuk, MacMillan, van Soeren, & Reeves, 2011). This background has given rise to a new innovation in the field of health services through interprofessional care to improve the quality of health services (Kenaszchuk et al., 2011). According to Hogg et al (2009) that interprofessional practices carried out collaboratively or Interprofessional Collaboration (IPCP) can improve the patient's health status. Inter-professional collaborative practice is a process when several different health care professionals provide comprehensive health services, working with patients, patients' families, nurses (caregivers) and the community to provide excellent quality care. (World Health Organization, 2010).

This collaborative inter-professional teamwork is what causes health workers to be able to promise to improve the quality of patient and community services (Ketcherside et al., 2017). *Institute of Medicine (IOM) and World Health*

*Organization* (WHO) recommends that patient care and interprofessional communication be improved with multidisciplinary practice (World Health Organization, 2010). Hospitals which are primary health services with operating room facilities are areas with the majority of chronic disease patients but often experience management problems with the health team who are still in the transition stage to work interprofessionally in achieving a collaborative and coordinating approach (Kenaszchuk et al., 2011).

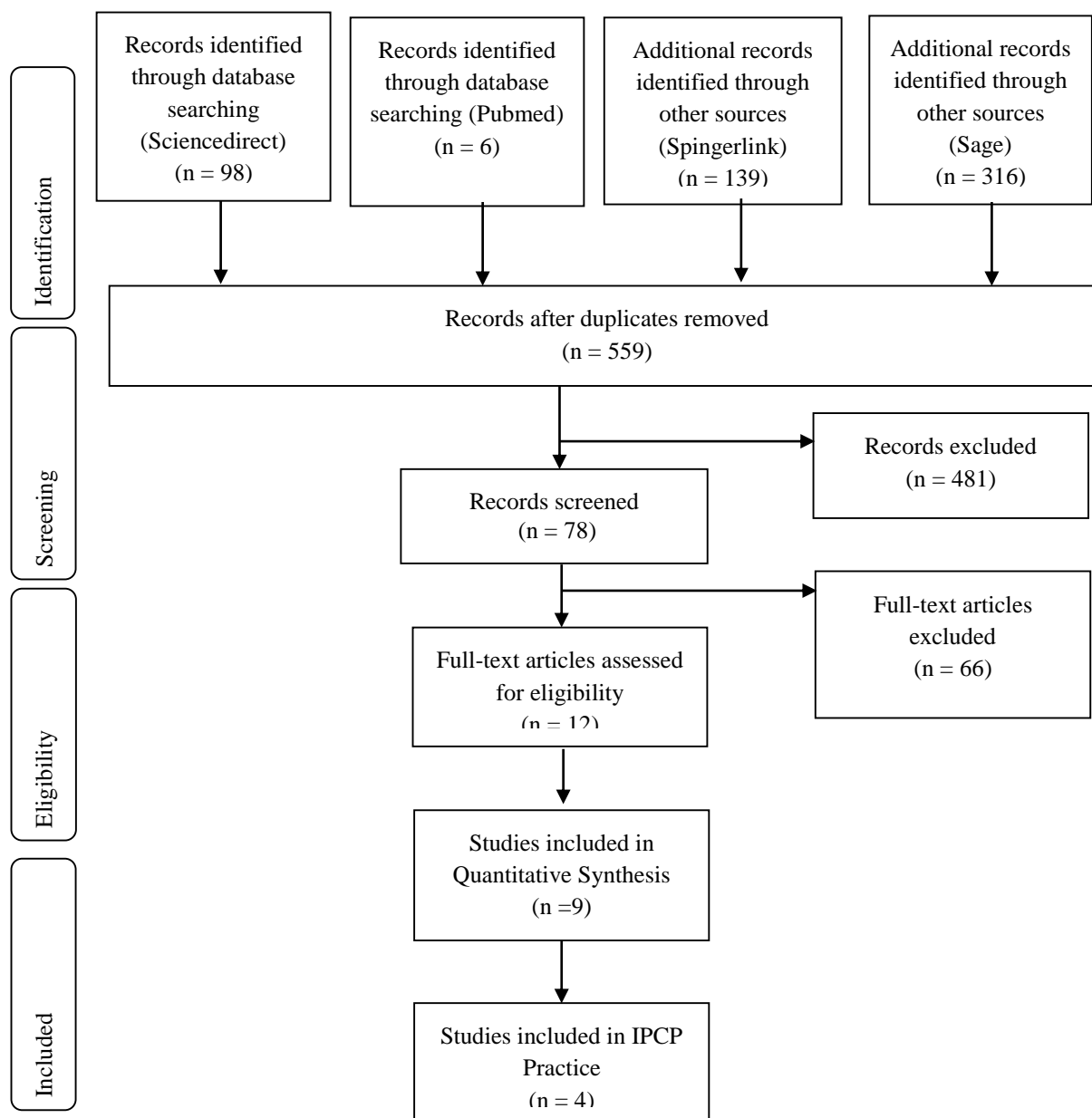
The solution offered is a team-based treatment action that focuses on improving the quality of patient and family services, especially in the operating room (Bendaoud & Callens, 2017). This coordination does not only combine structures, services or workflows between different professions, but also focuses on improving service delivery through synchronization and harmonization of the

operation room area information process in various health services. (Bendaoud & Callens, 2017; WHO, 2016). The operating room requires collaboration between professions to reduce medication errors and keep the patient's health status stable after undergoing surgery (Jayasuriya-Illesinghe, Guruge, Gamage, & Espin, 2016).

## 2. Method

The method of searching for articles in this literature review uses a database e-resources: *Sciencedirect*, *Pubmed*, *Spingerlink* dan *Sage* (2016-2020). Search strategy used keyword: "Interprofessional Collaboration Pratic Implementation AND adult patient AND operat\* room AND improved patient health status". The results obtained from 4 journals in the 2016-2020 period that match the inclusion criteria.

**Table 1.** Journal Search Process , PRISMA 2009 Flow Diagram



**Table 2.** Characteristic Study

No	Title/Author/Year	Purposed	Method	Population & Sample	Result
1	An interprofessional team approach to decreasing surgical site infection after coronary artery bypass graft surgery. (Jones, Nicole J., Villavaso, Chloe D, 2016)	To find out evidence-based strategies in preventing SSI ( <i>Surgical Site Infection</i> ).	Case report SSI in 3 hospital	5.994 patients surgical case	60% SSI can be prevented by evidence-based strategies, interprofessional team collaboration is one of the best recommended strategies, as is the ability of therapeutic communication between teams in the operating room.
2	Role of interprofessional teams in emergency general surgery patient outcomes. (Oslock, Wendelyn M., <i>et al</i> , 2020)	To determine the type of clinical support involved in emergency surgical outcomes.	The survey has been conducted since 2015 in the acute care department of the hospital, related to the collaboration of experts/advanced practice providers with residents in emergency surgical care. patient aged min. 18 years hospitalized with a history of emergency surgery in 17 <i>state inpatient database at American Hospital Association</i> .	83 RS dengan 49.271 surgical case	Hospitals with clinical support between experts and residents in providing bedside procedures, consultations, follow-up plans and initial evaluations can reduce the possibility of postoperative systemic complications.
3	Design and evaluation of a hospital-based educational event on fracture care for older adult. (Gosch, Markus., <i>et al</i> , 2021)	To evaluate the educational activities of the hospital in improving the care of fracture patients.	The committee of surgeons and geriatric staff set 3 learning objectives to improve knowledge and attitudes in interprofessional care. 13 hospitals participated in an online application form with 8 questions at 7 sites, taken over a 3-year period in Denmark, Colombia, Thailand, Paraguay, Switzerland and the Dominican Republic.	Surgical doctor, geriatric staffs and local team leaders, there were about 20-50 team members who attended the presentation regarding the specifications of perioperative and postoperative care.	The results of the team discussion that the principles of mutual care (interprofession), improvement of delirium management and optimization of preoperative.
4	Perspectives on optimizing care of patients in multidisciplinary chronic kidney disease clinics. (Collister, David., Russell, Randall., Verdon & Beaulieu,	(1) To find out the best treatment for the Chronic Kidney Disease (CKD) population; (2) to gain different perspectives on optimal care of CKD patients; (3)	CKD patients in <i>Progressive renal insufficiency Clinic</i> at Ottawa hospital.	The Canadian panel included multidisciplinary CKD Patients, resident	The main concepts from the patient and physician perspective are: (1) providing a framework for prioritizing a multidisciplinary clinical

	Monica., Levin, Adeera, 2016)	reviewing the required sapras; (4) describe the framework and matrix of CKD care to respect patients and the health care system.		nephrologists, geriatricians, nephrologists.	program model for CKD patients, (2) strategies for improving adherence and joint decision making, (3) using Standard Operating Procedures (SOPs) to improve efficiency and minimize variation in care between practitioners, (4) the existence of a standard system in measuring and improving patient outcomes.
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### Inclusion and Exclusion Criteria

The inclusion and exclusion criteria used in the selection of this literature review are:

- a. The research sample in the article is adult patients aged 18-65 years
- b. Publications for the last 5 years (2016-2020)
- c. Free Full Text
- d. Quantitative design
- e. Used Indonesian and or English language
- f. Contains content related to the type of collaborative practice in the operating room at various phases (Pre, intra and post surgery)

Articles that meet the inclusion criteria will be excluded if they meet the following exclusion criteria: Terjadi duplikasi dengan *database journal* lain

- a. There is no match between the title and the content of the journal
- b. Only contains 1 health profession

### Selection

Search results on Scienccdirect 98 articles, PubMed 6 articles, Spingerlink 139 articles and Sage 316 articles, resulting in a total of 559 articles. Furthermore, the articles were screened by title and abstract and were found to be 78 articles. Furthermore, a review was carried out with inclusion criteria: publications for the last 5 years (2016-2020), free full text, using Indonesian and or English, quantitative studies and containing related types of interprofessional collaboration in the operating room in various phases (Pre, Intra and Post surgery). ) obtained 4 articles which were analyzed by literature review.

### 3. Result and Discussion

Of the 4 journals that were fully reviewed, all journals were found to be effective in handling surgical cases in hospitals, for example: reduction of Surgical Site Infection and improvement of team-based care for patients with Chronic Kidney Disease (CKD) and fractures. (Collister, David., Russell, Randall., Verdon & Beaulieu, Monica., Levin, Adeera, 2016; Gosch, Markus., *et al*, 2021; Jones, Nicole J., Villavaso, Chloe D, 2016; Oslock, Wendelyn M., *et al*, 2020).

#### Surgical Site Infection (SSI) Decreased

The incidence of SSI can be prevented if the hospital has an interprofessional team that implements evidence-based strategies (Anderson, D.J., Podgorny, K., Berrios-Torres, S.I., *et al*, 2014; Jones, Nicole J., Villavaso, Chloe D, 2016). Evidence-based surgical site infection prevention strategies was: (1) appropriate hair removal, (2) preoperative skin and nasal decolonization, (3) meticulous hand hygiene, (4) tissue optimization and skin preparation in the operation room, (5) appropriate selection, dosage, timing, duration of prophylactics antibiotics, (6) maintenance of Bypass Graft, (7) surgical techniques,

and last (8) incisions covered with sterile dressing 24-48 hours after surgery (Jones, Nicole J., Villavaso, Chloe D, 2016). Evidence-based surgical site infection prevention strategies is the result of a review of evidence from previous SSI guidelines and prevention toolkit (Anderson, D.J., Podgorny, K., Berrios-Torres, S.I., *et al*, 2014; Bratzler, D.W., Dellinger, E.P., Olsen, K.M., *et al*, 2013; Hills, L.D., Smith, P.K., Anderson, J.L., *et al*, 2011; Institute for Healthcare Improvement (IHI), 2012; Kohut, 2016). All of these strategies are carried out by an interprofessional team, one of which is a certified anesthesiologist, surgical nurse, surgeon, pharmacist, anesthesiologist, nutritionist, endocrinologist, educator, and other health workers in the operating room who form an interprofessional bundle to collaborate and facilitate implementation of evidence-based strategies in patients (Jones, Nicole J., Villavaso, Chloe D, 2016). In addition, there is a need for skilled communication between interprofessional teams such as medical nurses and staff as well as the SSI team in hospitals. Through collaborative relationships can identify and remove barriers to implementation of evidence-based SSI prevention strategies (Jones, Nicole J., Villavaso, Chloe D, 2016; Oslock, Wendelyn M., *et al*, 2020).

#### Team-Based Quality Improvement

The first thing to do is to provide positive feedback regarding aspects that need to be improved such as hospital organization systems, software applications & installations and team work systems through conducting meetings etc. (Gosch, Markus., *et al*, 2021). One of the innovations is holding monthly meetings with multidisciplinary teams and assisting in the implementation of action management guidelines based on the latest evidence and through this multidisciplinary collaboration improving patient care. The patient initially doubted the implementation of this interprofessional team, but the existence of effective communication, mutual respect between professions, and a sense of belonging to a shared mission were able to enhance this interprofessional collaboration. (Abrahamsen, C., Nergaard, B., Draborg, E., Nielsen, D, 2017; Gosch, Markus., *et al*, 2021). Optimizing multidisciplinary team work in care can be done by paying attention to 4 aspects, to wit: (1) Clinical structure and function (defining clinic focus, scope, resources, processes, pathways; creating standardized operating procedures; algorithms, protocols, tools); (2) Patient's perspective (values, preferences; accessibility; support; engagement through; shared decision making; symptom control; health related quality of life); (3) Patient's condition (barriers to communication and education; sensory deficits; cognitive impairment; mood disorders; health literacy); (4) Framework for follow-up and evaluation (defining clinical targets, outcomes; monitoring with comprehensive data collection; reporting by "CKD scorecards"; quality improvement: Plan, Do, Study,

Act; Patient reported outcomes) (Collister, David., Russell, Randall., Verdon & Beaulieu, Monica., Levin, Adeera, 2016).

A multidisciplinary team that is available not only in the hospital area, but also outside the clinic is what patients desire (Collister, David., Russell, Randall., Verdon & Beaulieu, Monica., Levin, Adeera, 2016). The actions of the multidisciplinary team outside of the clinic prioritize the provision of education in the form of pamphlets, posters and educational sessions in language that is easy for patients to understand, so that patients also actively participate in care. (Morony, S., Flynn, M., McCaffery, KJ., Jansen, J., Webster, AC, 2015; Tong, A., Chando, S., Crowe, S., et al, 2015). Patient compliance can be improved by simplifying instructions, reinforcing health support behaviors on a regular basis and checking the patient's understanding of the information provided (Collister, David., Russell, Randall., Verdon & Beaulieu, Monica., Levin, Adeera, 2016). The involvement of family or caregivers can also increase patient adherence to medication. The provision of information must be given in a simple manner and explained separately by involving various senses, for example: written, spoken (National Institute on Aging, 2016; The gerontological society of America, 2016). The recommended education time is 15 minutes divided into several parts to provide education to maximize patient concentration and retention (Collister, David., Russell, Randall., Verdon & Beaulieu, Monica., Levin, Adeera, 2016).

#### 4. Conclusion

Based on the results of the literature review, it was found that 4 articles related to interprofessional application in the operating room were effective in reducing surgical site infections (SSI) and stimulated improvement in the quality of care by the IPCP team to improve the health status of patients with a history of surgery.

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