



Challenges in the Implementation of Clinical Pathway in Indonesia: A Systematic Review

Akhlia Ayu Helzainka¹

¹Depok Public Hospital, Depok, Indonesia

ABSTRACT

Backgrounds: Clinical Pathway (CP) is a tool that consists of practical treatment processes to implement clinical guidelines to improve the quality of services. This review is to describe challenges faced by hospitals in implementing clinical pathways. **Methods:** This systematic review uses Preferred Reporting Items for Systematic Review and Meta-analysis (PRISMA) protocols. Articles were searched in Portal Garuda, Google Scholar, and the University of Indonesia online library. The final nine articles were included for qualitative synthesis. **Results:** Eleven hospitals were identified from 9 articles reviewed. Factors found to influence CP implementation were then divided into five major groups. **Conclusions:** The main factors affecting CP implementation in hospitals in Indonesia are human resources and hospital leadership and management. Supporting facilities of CP implementation, monitoring and evaluation, and user-friendly CP template are also factors that have to be noticed by hospitals in Indonesia to ensure the quality of services.

Keywords: Clinical pathway, hospital, implementation, Indonesia

ABSTRAK

Latar Belakang: *Clinical Pathway* (CP) adalah alat proses praktis yang merinci penerapan pedoman klinis untuk meningkatkan kualitas pelayanan. Tujuan kajian ini adalah untuk menggambarkan faktor-faktor yang memengaruhi proses implementasi CP di rumah sakit di Indonesia. **Metode:** Tinjauan sistematis ini menggunakan protokol *Preferred reporting items for systematic review and meta-analysis* (PRISMA). Sumber artikel berasal dari Portal Garuda, *Google Scholar*, dan perpustakaan *online* Universitas Indonesia. Sejumlah 9 artikel disertakan dalam sintesis kualitatif. **Hasil:** Terdapat 11 rumah sakit yang diidentifikasi dari 9 artikel yang dikaji. Faktor-faktor yang ditemukan memengaruhi implementasi CP di 11 rumah sakit kemudian dibagi menjadi 5 kelompok besar. **Simpulan:** Faktor utama di rumah sakit di Indonesia yang memengaruhi implementasi CP adalah kepemimpinan dan manajemen rumah sakit serta aspek sumber daya manusia. Dukungan sarana dan prasarana, monitoring dan evaluasi, serta formulir CP yang mudah digunakan juga menjadi faktor yang harus diperhatikan untuk memastikan kualitas layanan. **Akhlia Ayu Helzainka. Tantangan Implementasi *Clinical Pathway* di Indonesia: Tinjauan Sistematis**

Kata kunci: *Clinical pathway*, implementasi, Indonesia, rumah sakit

INTRODUCTION

Clinical pathways (CP) – also known as integrated care pathways, coordinated care pathways, care maps, or anticipated recovery pathways – are standardized treatment patterns to manage medical activities.^{1,2} Unlike clinical guidelines and protocols, CP is a form of “cookbook medicine” that consists of practical treatment processes detailing how to implement clinical procedures, including clinical guidelines and non-clinical activities.^{2,3} Inconsistency of delivery of service, confusion among staff regarding roles and responsibilities, uncoordinated work are reasons CP is needed in a hospital.⁴

CP is considered as an appropriate tool

that contributes to the quality of service management, resources usage optimization, and control of health care cost by increasing consistency in practice, optimizing patient outcomes, improving continuity of care, and monitoring standards of care that lead to better treatment quality and patient satisfaction.¹⁻⁴ It is used by a multidisciplinary team and for coordination of care.² CP is more like a reminder and evaluation tool for patient improvement.⁵

In Indonesia, CP is one component of the Diagnosis Related Group (DRG) - Casemix financing system (now Indonesia Case-Based Group or INA-CBG system), which consists of disease and procedure codification (ICD 10

and ICD 9-CM) and the calculation of costs.⁵ CP is required administratively as it is listed in the standard element of hospital accreditation version 2012 from Hospital Accreditation Commission or *Komisi Akreditasi Rumah Sakit*. The part stated that Clinical Practice Guideline (CPG) and Clinical Pathway and/or clinical protocol are used as guidance in clinical care.⁶ CP is also considered in line with the need for standardization of services in hospitals under some government regulations such as *Regulation of Minister Of Health of The Republic of Indonesia number 1438/Menkes/Per/IX/2010 on Standard of Medical Services, number 58/2014 on Standard of Pharmaceutical Services in Hospital, and number 10/2015 on Standard of Nursing Services in Special Hospitals*.

Alamat Korespondensi email: akhlia.helzainka@gmail.com



Even with the advantages offered by CP, the implementation of CP in hospitals remains perplexing. It may require more significant changes of professional attitudes and work styles than to services themselves.⁴ In this process, management issues such as leadership, resources, and organizational culture must be explored and addressed.⁷ A sharp criticism in the implementation of CP is often considered a threat to the physician's autonomy. The patient's clinical conditions are certainly not similar, and changes in clinical condition may frequently occur, necessitating flexibility of the pathway.⁵ Because of these factors, the benefits of CP have been constrained.

Until today, there has been no systematic review addressing factors affecting the implementation of CP in hospitals in Indonesia. This review aims to describe factors affecting the process of implementing CP in hospitals in Indonesia. This review is expected to help hospitals identify and anticipate problems in implementation of CP and formulate a plan to improve the implementation of clinical pathways in hospitals in Indonesia.

METHODS

Search Strategies

This systematic review used Preferred Reporting Items for Systematic Review and Meta-analysis (PRISMA) protocols.⁸ There were two steps of searching strategies in this review. First, articles were searched by keywords "clinical pathway" and "implementation" in the online database *Portal Garuda*, Google Scholar, and University of Indonesia online library, which the author can access. For articles in Bahasa Indonesia, keywords "implementasi" and "clinical pathway" were used. Second, a reference list or bibliography from all the retrieved articles is assessed based on those titles. If those hand-searched articles were suitable, they were included for review. The searching process is done from October 28th to November 13th, 2016. Articles found were then go through the filtering process.

Filtering Process

Filtered by year period of 2007-2016 and by English and Indonesian as the language, there were 4067 articles found using all searching tools, including eight articles by using manual searching. After identical articles were removed, 4055 articles were included.

Articles chosen were in the form of journals, dissertations, or thesis. The remaining 498 articles were screened by title and abstract. Twenty articles deemed relevant were then searched for full-text and assessed for their eligibility. Articles included were those with aims or conclusions significantly appropriate with this systematic review's objectives, described the process of CP implementation, and conducted in a hospital. The final nine articles were included for qualitative synthesis. Each article or study was reviewed based on study location, period, design, variables, results, factors or challenges found related to CP implementation, and suggestions from the researcher from the study.

RESULTS

Some difficulties were found in the searching process because not many articles or studies on CP in Indonesia were published in journals. There are many theses or dissertations about CP, but mostly focusing on the effect of CP

on the patient outcome or treatment cost. Not every desirable thesis for this review was available in full text; some needed special access to the repository online database of a specific university. In this review, 2 out of 9 (22.2%) of the studies were from journal articles, and 7 out of 9 (77.8%) were in thesis form.

The location of those nine studies was focused on hospitals. Two out of 9 (22.2%) of the studies researched two types: public and private hospitals. The remains of the studies (7 out of 9; 77.8%) only focused on 1 type of hospital. Four out of 11 (36.4%) hospitals studied were public hospitals, and 7 (63.6%) hospitals are private hospitals.

Study designs used in the reviewed articles were qualitative (3 studies or 33.3%), cross-sectional with a quantitative and qualitative approach (4 studies or 44.4%), before-after study (1 study or 11.1%), and quasi-

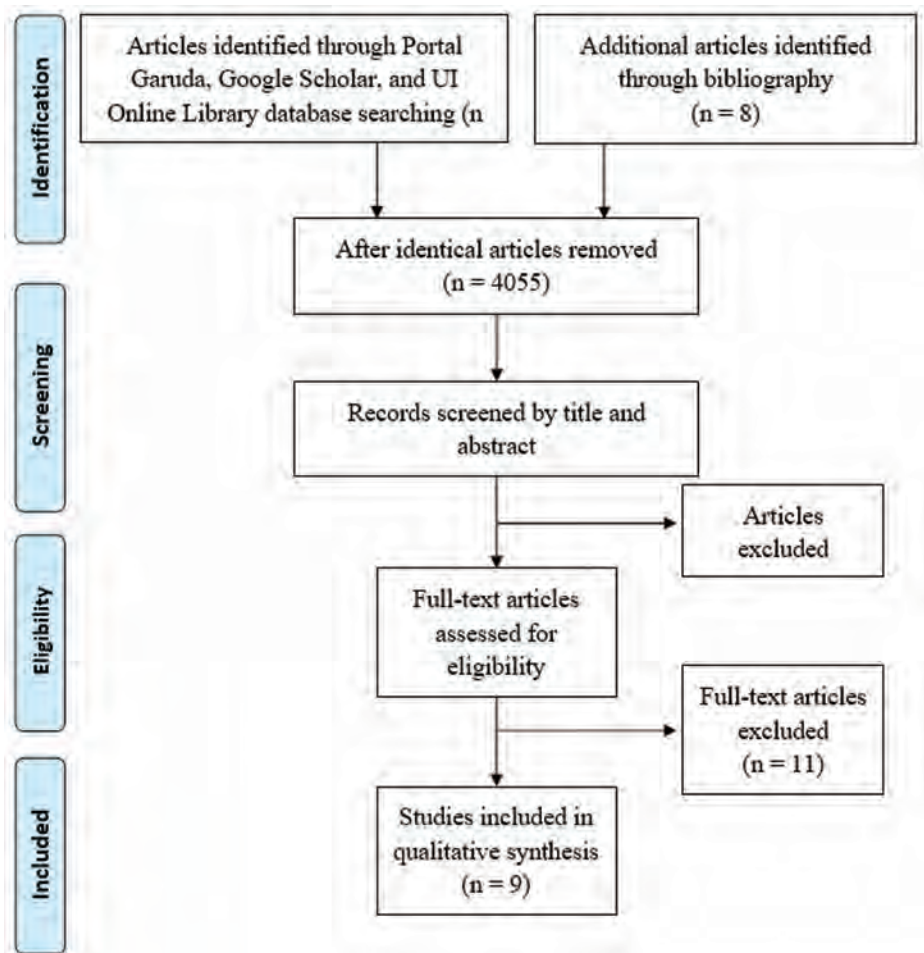


Figure. Flow chart of study identification in systematic review



experimental with a qualitative approach (1 study or 11.1%).

Factors affecting or challenges in this review are the problems found or occurred in CP implementation. Characteristics found in all 11 hospitals were then divided into five main groups:

1. Human resources issues such as poor commitment to implementing CP, negative assumption on CP, low knowledge about CP, and unpreparedness of the healthcare personnel to implement CP were stated in all studies (9 studies or 100%).
2. Leadership and management of hospital mirrored in policy regarding CP implementation, implementation strategy, and development process of CP which still lacking were described in all studies (9 studies or 100%).
3. Facilities and infrastructures that would benefit CP implementation, such as an integrated hospital information system and supporting medical equipment aligned with CP, were brought up by two studies (22.2%).
4. Monitoring and evaluation are a must for improving CP implementation. No monitoring and evaluation of CP implementation or not routinely done were faced by hospitals in 5 studies (55.6%).
5. CP template/form becomes a matter of attention in 4 studies (44.4%) that mentioned inconvenience CP template/form. The inconsistency and unfamiliarity of the terminology used were contributed to the low level of CP form filling.

DISCUSSION

In analyzing factors or challenges for this systematic review, studies published in thesis form were more preferable since those provided more information details on the process of CP implementation than journal articles. Using the thesis as a source in this systematic review was considerably helpful in making a detailed list of challenges.

Human Resources as the Main Concern

Human resources are the key to success in the implementation of CP.⁹ Appropriate quantity and quality of human resources in a hospital will support CP implementation. But the practical implication is the challenge.

Poor communication between healthcare personnel and lack of awareness were also observed in the reviewed article.¹⁰ In the academic hospital, communication between the doctor in charge and resident doctors sometimes becomes a problem.^{11,12} These challenges have to be addressed with awareness since sharing information, communicating 'vertically' and 'horizontally', and working collaboratively are featured in CP.⁴

There are issues regarding maintaining any resistance that arises from the presumption that CP limits or restraining medical autonomy, as shown in the two studies reviewed.^{13,14} Each healthcare personnel (doctors, nurses, nutritionists, pharmacy, or even physiotherapists) also do not understand their role in CP implementation.¹⁴ These findings are consistent with a study in Sweden where old habits were perceived as challenging to be altered and lack familiarity with the complicated implementation of CP and caused resistance.¹⁵ Hospitals need to recognize their staff's characters, especially those involved directly in health services.

Often healthcare personnel said they did not have sufficient knowledge about CP itself – definition, benefits. How to implement^{11,14} or even though they already know, the clinical decision remains subjective under their clinical experience.^{13,16} This factor means a non-compliance of CP. A study in Malaysia has come upon the same problem: the healthcare personnel did not understand how to implement CPs.¹⁷ Knowledge of healthcare personnel regarding CP is essential to raise awareness and motivation in implementing CP. Bottom-up initiatives were more likely to succeed than top-down initiatives.¹⁵ A way to make sure the knowledge is obtained is that hospitals need to hold routine exposure in training or campaign to reach all healthcare personnel. Since most studies used the qualitative method, no measurement of knowledge about CP is done; therefore, the quantitative level of expertise about CP in each hospital is unknown.

The CP implementation depended on committed individuals who showed great enthusiasm throughout the process, and interprofessional groups were beneficial.¹⁵ That is why human resources must be

considered as the primary concern when implementing CP in hospitals.

Hospital Leadership and Management

According to Midleton and Roberts in Wijayanti¹⁶, CP is a leader-driven tool; the most fundamental thing is how hospital leaders have awareness and commitment to drawing up a strategic policy to support CP.¹⁶ In the absence of policy support from the management, the clinical pathway could not have run well because the procedure is the legal basis for implementing a program in a hospital.⁹ Policies regarding medical services such as patient screening would also affect CP implementation.¹⁸ Hospital policies related to CP implementation shall apply to every level, ranging from top management down to operational.

Hospital leadership and management are responsible for forming a multidisciplinary team consisting of representatives from various professions. This team will be involved, especially in the development and audit of CP. But in reality, the group became less proactive in the CP implementation process since members of the group are not working full-time on CP.¹⁰

The development of CP is regarded as the essential initial step. The process must pay attention to the components that should be covered in the definition of CP, evidence-based, and disseminated to all related staff.^{13,16} Consensus must be reached and was approved by all members of the multidisciplinary team. Even after the consensus is reached, there is still a possibility of non-compliance from the healthcare personnel.

Hospital leadership and management also need to take into account the education and motivation of healthcare personnel. Workshop or in-house training about CP, staff involvement from early steps of CP development, and reward system are a few means to improve knowledge and build motivation.⁹

The term "case manager" appears in some reviewed studies. Case managers are deemed as a necessity as he/she has a role in managing, monitor, or supervise CP implementation.⁹⁻¹¹

The appointment of a case manager by



hospital leadership and management has to consider the qualification and availability of human resources. The improper designation may lead to a dysfunctional case manager.

Monitoring and Evaluation of CP

CP developed in checklists, so they are easy to remember, implement, and evaluate.⁹ Some indicators that can be used to evaluate the success of clinical pathway implementation include completeness of filling clinical pathway form, analysis of service variation, and quality of medical service indicator such as length of stay.¹²

Obstacles encountered in the development of CP can be identified by monitoring and evaluating the implementation that has been done.¹² All steps from CP implementation starting from the development process to monitoring and evaluation, commitment building, and establishing a culture of integrated care are all hospital staff's tasks. Still, the management level is held responsible for making sure the implementation process is running.

Facilities and Infrastructure

Another form of commitment shown by the hospital leadership is by providing supporting facilities for CP implementation, such as an integrated hospital information system. This

system has not been available while it could be used as a tool to monitor and evaluate CP implementation.^{10,19} Benefit of integrated hospital information system is mentioned by Wei L, *et al*:²

“...it is necessary to computerize clinical pathways and integrate pathway knowledge with existing information systems such that the shared pathway knowledge can provide seamless support in the treatment.”

In one of the reviewed studies, the hospital has provided supporting facilities such as nursing tools to support the standards of nursing care, technical facilities, for example, CP form, software system, ICD-X book, drug formulary, nursing logistics, computers, and office supplies.⁹ This condition will help the more straightforward implementation and development of CP.

CP Template/Form

The format of the CP was perceived as being crucial for acceptance and usefulness. Structures that were not user-friendly created resistance, while understandable and familiar structures and terminology facilitated acceptance.¹⁵ Studies conducted in a hospital in Yogyakarta mentioned the completeness of CP form filling was only 33,11%. One factor contributing to this low percentage was

because the CP form design was too small.¹²

Based on the review results, CP implementation is regarded as an additional workload, especially for healthcare personnel. They had to write patients assessments twice, in the medical record and CP form.^{10,14} Complaints regarding CP form that is not easy to use, too small, or limited spaces contribute to the low level of CP filling. Each hospital needs to evaluate existing CP whether it is still appropriate and whether all health personnel who have to fill the CP form are comfortable with the template.

CONCLUSION

There is a lot of room for improvement in the implementation of CP in Indonesia. The most significant factor found in the process was the aspect of hospital human resources. Leadership and management, facilities supporting CP implementation, monitoring and evaluation operation, and user-friendly CP template also become possible challenges that hospitals in Indonesia should readily encounter.

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