



**TINJAUAN PUSTAKA: KEPATUHAN TERHADAP KEBERSIHAN TANGAN
LIMA MOMEN DI FASILITAS KESEHATAN DALAM UPAYA
MENURUNKAN INFEKSI TERKAIT PELAYANAN KESEHATAN)**

*(Literature Review: Compliance With Five Moments Hand Hygiene In Healthcare Facilities
In An Effort To Reduce Healthcare-Associated Infections)*

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Abstract

Facilities susceptible to being infected with hospital germs known as healthcare-associated infections. World Health Organization through guidelines and strategies to improve five-moment hand hygiene includes improving infrastructure to provide hand medical means. The learning is targeted how a literature review of health workers' compliance to perform five model clean hands in medical facilities to minimize the incidence of infection related to health services. The method of study was literature review study design with An optimal strategy, for example, is searching for sources in various international journal data. The result was based on a literature review of 15 research journals, namely Google Scholar, Science Direct and Pubmed, it could be concluded that the compliance of health workers in performing five-moment hand hygiene varies greatly and the predictors that influence it are also very diverse. Five-moment clean hands optimal for reducing the incidence of healthcare-associated infections.

Keywords: Nurse, hand hygiene, compliance

Abstrak

Infeksi terkait layanan kesehatan merupakan kejadian infeksi pada fasilitas yang rentan terinfeksi oleh suatu kuman di pelayanan kesehatan seperti rumah sakit. Organisasi Kesehatan Dunia melalui pedoman dan strategi untuk meningkatkan kebersihan tangan lima momen termasuk meningkatkan infrastruktur untuk menyediakan sarana medis tangan. Pembelajaran ditargetkan bagaimana tinjauan pustaka tentang kepatuhan petugas kesehatan untuk melakukan lima model kebersihan tangan di fasilitas medis untuk meminimalkan kejadian infeksi terkait layanan kesehatan. Metode penelitian ini adalah desain penelitian tinjauan pustaka dengan strategi yang optimal dengan mencari sumber di berbagai data jurnal publikasi. Hasil berdasarkan tinjauan pustaka dari 15 jurnal penelitian, yaitu Google Scholar, Science Direct dan Pubmed, dapat disimpulkan bahwa kepatuhan petugas kesehatan dalam melakukan kebersihan tangan lima momen sangat bervariasi dan prediktor yang memengaruhinya juga sangat beragam. Kebersihan tangan lima momen optimal untuk mengurangi kejadian infeksi terkait layanan kesehatan.

Kata Kunci: Perawat, kebersihan tangan, kepatuhan

1. INTRODUCTION

Healthcare facilities, which are places where people seek help for their health needs. In addition to being a place to receive healthcare services, patients are also susceptible to being infected with hospital germs known as healthcare-associated infections.

The average annual incidence of healthcare-associated infections is twice as high as 32 other infectious diseases (Suetens et al., 2018). World Health Organization (WHO) data in 2016-2017 showed that the incidence of healthcare-associated infections in the world reached 7%-22% or an average of 8.9 million incidents per year. WHO through guidelines and strategies to improve five-moment hand hygiene includes improving infrastructure to provide hand hygiene facilities, both water-based antiseptic soap and alcohol-based Hand Scrub, education and counseling related to five-moment hand hygiene (Fouad & Eltaher, 2020).

The five models clean hands are clean hands based on indications, namely before contact with patients which aims to reduce the transmission of germs from officers to patients, the second before performing aseptic actions which aim to prevent the entry of microorganisms into the patient's body, the third after contact with body fluids or after taking aseptic actions which aim to prevent microorganisms from contaminating health workers and avoid transmission of germs to the environment, the fourth after contact with patients which is useful for breaking colonization in officers, the last after contact with the environment which aims to prevent from endangering officers and patients (WHO, 2012).

Hand hygiene is regulated in Permenkes no. 27 of 2017 in Indonesia, regarding control and prevention of infection in the medical sector facilities by implementing standard precautions and transmission-based precautions, one of which is hand hygiene with anti-septic soap in clean flowing water and the use of 60% until 80% alcohol-based hand scrub if hands do not appear dirty harmonize five models of clean hands (Kemenkes RI, 2017).

Five-moment clean hand is highly effective in reducing the incidence of healthcare-associated infections, all healthcare providers are implementing multimodal guidelines for five-moment hand hygiene improvement strategies to improve patient safety. Health workers who provide services for 24 hours and have more frequent contact with patients are nurses. Researchers are interested in conducting many studies and there is also a lot

of literature related to the five model clean hands.

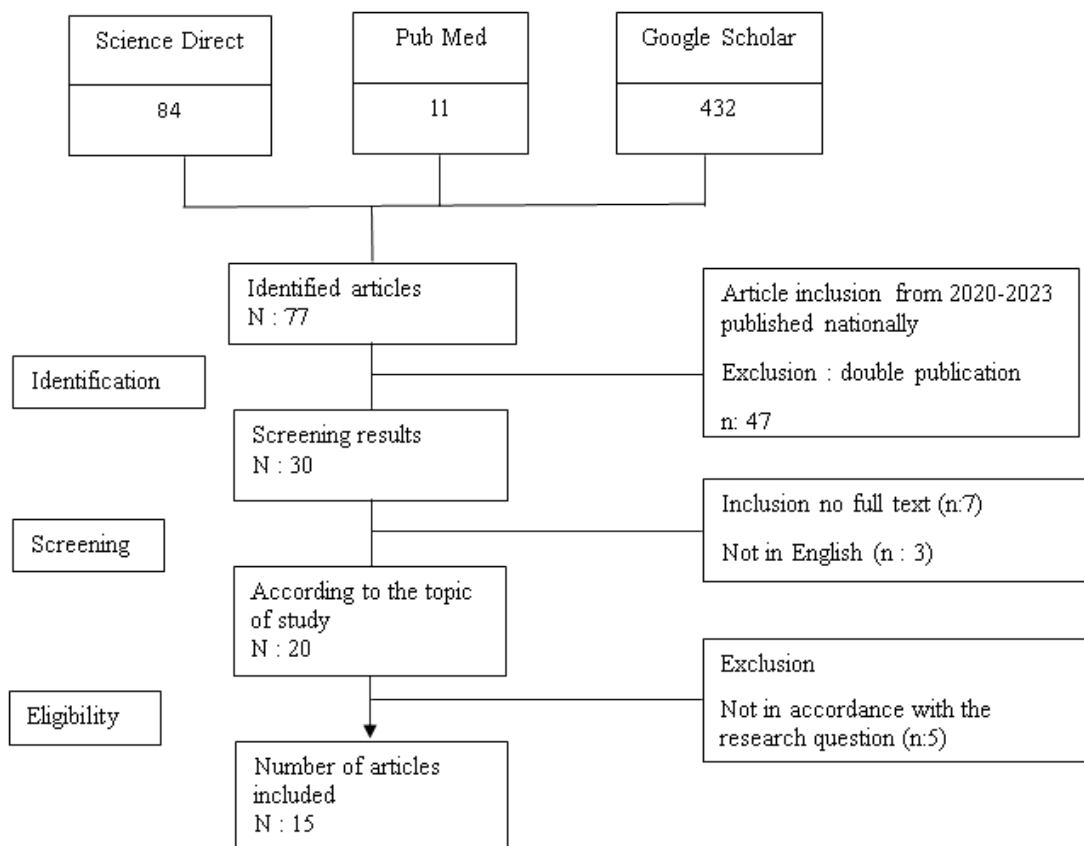
The formulation of the problem in this study was how a literature review of health workers' compliance to perform five models clean hands in health facilities to minimize transmission in medical facilities. The learning target is to share illustrations about the observance of medical workers in implementing the five models of clean hands in the medical sector facilities in an effort to reduce infections related to health services.

The benefits of this research for the author would increase insight and understand nurse obedience to five models of clean hands health facilities in an effort to prevent infections related to health services. Theoretical benefit was providing continuous learning or knowledge and understanding related to five models of clean hands. Practical benefits could provide an overview Caregivers' adherence to implementing the five models of clean hands in medical facilities is an effort to prevent infection from medical facilities, and health service providers can establish guidelines so that the implementation of activities for health services is sustainable.

2. METHOD

This learning takes the form of a comprehensive literature study. The strategy, for example, is searching for journals in international study data by searching the internet from three models, namely Science Direct, Google Scholar and Pub Med. This learning keywords are aligned from the Medical Subject Heading (MeSH) covers "nurse", "hand hygiene" and "compliance". The inclusion criteria used in selecting Library learning is original learning (combined or quantitative method), the integrity of the article text, caregiver learning, hand hygiene, five moments, compliance published from 2020 to 2023, and articles in Indonesian and English. Meanwhile, the exclusion criteria were non-original published articles such as letters to the editor or abstracts only, articles in the form of systematic reviews, and meta-analyses. A total of 527 articles that had similar topics were obtained, checked for suitability, and fifteen articles were selected to be analyzed through analysis of objectives, topic suitability, research methods used, sample size, sample limitations, results of each article, and limitations that occurred.

Figure 1. flow diagram of literature review



3. RESULTS AND DISCUSSION

3.1 Results

No.	Title (author, year)	Design research	Comparison Framework	Instruments	Result
1	The Relationship Between Attitudes and Skills As Well Caregiver Compliance in Cleaning Hands Five Moment at Bhayangkara Hospital Balikpapan. (Fhirawati, Yoga Kurniawan, 2023)	Descriptive analytics with Cross sectional approach, sample were nurse at Bhayangkara hospital Balikpapan as many as 121 respondents	Global Patient Security Challenges. The samples used are homogeneous, so they are more specific in providing an overview of the research results. To provide an overview of compliance with the implementation of five moments hand hygiene using a sample of 121, still biased, the number of moments should be used.	Hand hygiene auditor, Method Interview	There was a relationship between attitudes and skills and hand hygiene compliance. Nurses who have attitudes and skills which can increase compliance in carrying out hand Five-moment hand hygiene
2	Overview of the five-moment handwashing compliance level In inpatient nurses at IR Hospital. Soekarno Sukoharjo. (Vita Fatika Sari1, Dewi Kartika Sari, 2023)	Descriptive, observational, Sample were 64 nurses and using purposive techniques Sampling	Five Moment Hand Washing and Prevents nosocomial infections. Taking samples that are in accordance with the criteria and objectives to be researched. To provide an overview of compliance with the implementation of five moments hand hygiene using sample 64, still biased, the number of moments should be used	2 instruments, namely questionnaires to find out Respondent characteristics, and an observation sheet to measure the level of compliance with Five Moments and Hand Washing	Level compliance with the five moments handwashing of inpatient nurses at Ir. Soekarno Hospital in the good category of 61 nurses (95.3%) and the medium category of 3 nurses (4.7%)
3	WHO 'Five models of clean hands induced by anesthesia: an illustrative analysis showing innovation barriers and opportunities for development. J.B. Schmutza, B.Grande, H.Saxd (2023)	Observation method, Sample were 74 respondents,	The study was based on an adapted, simplified version of the 'five moments' concept that has been adopted by Ontario (USA). Five moments of hand hygiene concept to the anaesthesia induction workflow. The results of the study can already generalize the moments and factors. The samples used are still heterogeneous, the research area is still not wide.	Observation method by human factors specialist and an infection prevention specialist nurse, both with extensive experience in the simplified five moments. They used the WHO observation method	Low hand hygiene compliance (4.7%). High exposure of hands to the surface
4	Assessment of Medical workers' knowledge of "five models of hand hygiene"	Descriptive methods and methods of statistical inference. The study involved 231 doctors and nurses.	Five moments for hand hygiene. Evaluating the two professions that have an important role in hospitals is not easy,	questionnaire	In answer to this question, 176 (75.9%) doctors and nurses answered that they did, 30 (12.9%)

	Małgorzata Kołpa, Marta Wałaszek, Jadwiga Wójkowska-Mach and Anna Różańska. (2019)		both have a high level of busyness. The tools used are still general and have not specifically explored knowledge related to five moment hand hygiene.		answered they did not, and 25 (10.8%) abstained from answering.
5	Overview of the Practice of Five Moments of Hand Washing for Nurses at Health Centers. Hilmawaty Susanthi Paudi Cake (2020)	Obseively descriptive with a cross-sectional approach. Sample were 97 respondents, with purposive sampling	WHO Guidelines Hiprine in Healthcare. The results of the study can provide an overview of the compliance of nurses' hand hygiene. The results of the study are still biased, which is observed by hand washing activities or five moments hand hygiene.	WHO standard observation sheets	the compliance rate is less than 69.1%, moderate, compliance as much as 18.6% and good compliance as much as 12.4%
6	Implementation of Education Programs and ABHR in Efforts to Improve Nurses' Hand Clean Compliance Behavior at Hospital X. Nur Fitriah Efendy, Serri Hutahaeen (2022)	Quasi Experiment Design without control group. Sample were 30 nurses, a total sampling of nurses in the Cemara House Inpatient Room Pain X	Multimodal strategy. The act of educating 30 inpatient room nurses is not easy because each nurse has a different guard shift. To give an idea of compliance with the implementation of five moments hand hygiene using a sample of 30, still biased, it should use the number of moments	Instruments Primary data collection in this study is in the form of interviews and observation sheets from 'World Health Observation & Calculation Form Organization: Hand Hygiene Technical Reference Manual'	Increased Nurse Compliance in doing hand hygiene before (23.1%) and after (61.5%) Intervention
7	Review of the world's medical five models of clean hands set: Cross field of observation of medical professionals. Thabiso LA Bale., et al (2021)	Quantitative longitudinal design is used in covert direct observation, Sample were 329 repondents in three hospitals. Observations cover all categories of nurses, all disciplines medicine and all related categories of health workers, which is spread across various shifts, each session with a time of 20 minutes	The World Health Organization (WHO) makes hand hygiene in the establishment of standard health care procedures globally. The audited areas already involve intensive spaces, in accordance with WHO guidelines. The number of opportunities is insufficient compared to the number of existing beds	WHO 'five moments of hand hygiene' observation form	Hand hygiene compliance was 17.26% (n = 329). Allied health professionals have a higher compliance (23.02%) than medical professionals (19.26%) and nursing (15.76%). Moment Before contact the patient had the lowest compliance (8.21%) compared to all other moments
8	Factors Affecting Caregiver Compliance Levels in Implementing Hand Sanitization at Muntilan Regional Hospital. Andika Dwi Rianita, Dyah Suryani	Quantitative research with Cross-sectional Research Design. Sample were 54 nurses. The sampling technique used is Proportionate Stratified Random Sampling.	hand hygiene is through hand hygiene Practice. The characteristics of the sample are homogeneous, so it can be more specific in providing an overview and follow-up plan. The number of samples used is still	The research instrument applies Questionnaires and Checklists	This study shows that there is a relationship between motivation and the level of hand obedience nurse hygiene (p-value 0.000). There is a relationship between attitude and the level of hand obedience

	(2019)		minimal, it is not clear whether the study is hand hygiene five moments or only hand hygiene because of the location of the research in the hospitalization of a hospital and the sample of nurses.		nurse hygiene (p-value 0.000). There is no relationship between tenure and compliance Hand Hygiene Nurse (P- 0.459 value)
9	Individual Characteristics of Nurses Associated with Washing Hands Five Models Compliance. Rima Anggraini Berti and Maryana Maryana (2021)	The method used is a quantitative approach with cross-sectional. Sample were 84 nurses in the five inpatient wards. Purposive sampling	Health workers generally know about The importance of washing hands to prevent infections. Research frequencies related to handwashing compliance. The number of samples and the number of opportunities at each moment have not been able to generalize a population.	Handwashing questionnaire and observation Compliance	This study shows if there is a significant relationship between room type, education and motivation with compliance with the five models of hand cleaning (p. <0.05). The highest aspect of space, which is not related to age, gender, skin condition, knowledge, actions, work level, education and infrastructure (P > 0.05)
10	Compliance with clean hands in the intensive care sector: Observational Learning. Hoffman Magdalene. SendlhoferGerald Private. Veronika Gombotz, et al (2019)	Observation design, Sample were 506 healthcare professionals. There are twelve ICUs in these medical facilities, six surgical ICUs with a total of 68 sleeping facilities, two medical ICUs with a total of 34 sleeping facilities, and the remaining children with 50 sleeping facilities. caregivers for training are added in the hygiene sector and are professionals with at least 1 year experience, held from 2013 - 2017 per ICU, with a period of around 1 year. Observations are carried out during daily patient care	Guidelines for conducting compliance measurements issued by GCHC. The results of the study can generalize the existing population, because the number of opportunities observed uses guidelines from the WHO.	Documented online "webkess" tool	The average The level of clean hand compliance increased from 75.1% to 88.6% since the learning phase. After implementing the intervention, there was improvement in hand cleaning
11	Assessment of nurse perception and observance of the five models of clean hands at RSP University in Rwanda Fulgens Maniriho, et al, 2019	Descriptive cross-sectional design. Sample were 84 nurses was selected using Convenience sampling	Hand hygiene compliance seems to be very important in preventing HAIs and limiting transmission of microorganisms. Measuring the level of knowledge of healthcare workers is a key thing before	Perception survey questionnaire and observation checklist used to collect data	with an average compliance rate of 53.6% for the "Five Moments". Overall perception of the nurse is negative with inadequate adherence to hand hygiene Practice

			providing further training. Measurements were made in only 2 rooms, even though in the WHO hand hygiene guidelines, there is at least 1 intensive room, high-risk treatment room, and ward.		
12	Compliance Predictor with "Five main models" for hand hygiene among medical service providers in the medical field of citizens of Southern Nigeria. Patrick Gold Oyibo, et al 2022	Design of cross-sectional studies with prospective covert observations. Sample were sample 565 participants were selected for research to improve the validity of findings in Simple Random sampling technique	Clean hands are the main thing to prevent and catch infections HCAI. The number of samples and the number of opportunities audited with a confidence level of 95% and the percentage of each moment following Australian hand hygiene rules, The results are biased because the types of hospitals audited are different, most likely the application of multimodal hand hygiene improvement strategies is not the same.	compiling reports using self-managed data The questionnaire is composed as well as the observation background	The tacitly observed and self-reported compliance rate was 18.6%. This study brings to Previous levels of compliance that are observed secretly and self-reported by hand Hygiene
13	Hand hygiene initiatives: a pre and post-intervention results.Mohammed Fouad and Sheref Eltaher (2020)	Observation, This study consists of 3 phases: stage I, and the size of the level of clean hands according to the provisions, step II, the medical method of hand cleaning begins and step III is compliance with clean hands again. between October 2016 and March 2017	Clean hands are the main thing to prevent and catch infections of HAIs. The change in post-treatment behavior is not only shown by changes in physical behavior but also can be proven by a decrease in the number of colonies in the hands of officers. Specifically showed behavioral changes in medical health workers, whether they are non-medical Clean Care is Safer Care.	A series of hand hygiene practices are observed together in total capacity 65 beds, total 1374 opportunities, All of healthcare professionals and students working in the emergency department Included in research Questionnaires.	develop compliance with clean hands standards significantly 30.7% - 45.5% ($P < 0.01$). the total number of Log10 bacteria per hand decreased 4.97 (standard deviation = 0.32) to 4.57 (standard deviation = 0.47) ($P < 0.05$)
14	Hand Hygiene Obedience Learning in a Central Hospital in Vietnam. Cam Dung Le, et al (2019)	observations and surveys to collect this data. A total of 371 surveys and 997 observations made Quota sampling	Provides an overview of knowledge and compliance related to hand hygiene and predictors related to hand hygiene. However, it has not been able to describe specifically related to the five moments hand hygiene activity	iScrub Lite app observation component	Overall compliance were 31%; Doctor had the lowest compliance rate of 15%, then large-scale caregivers 39%. Medical workers have optimal knowledge of the concept of clean hands but are all unsure about getting patient information
15	Relationship between Caregiver Obedience in implementing clean hands at	This study uses a cross-sectional study form by distributing questionnaires, carrying out	Behavioral determinants Consists of predisposition factor data, allowing factor and the increasing factor.	Observation with questionnaire	There is significant correlation between major predisposing aspects, supporting factors, and the

Undata Regional Hospital, Palu City,Indonesia Bertin Ayu Wandira, et al (2019)	questions and answers and observing. Sample were 30 participants	Showing several predictors that can influence hand cleaning behavior, bias related to the number of samples	strengthening factor of hand hygiene implementation ($P < 0.05$)
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3.2 Discussion

Analysis of the Level of Compliance of the Five Moments of Handwashing

Washing hands is a must, not only for staff but for all levels of society. Especially during the Covid 19 pandemic and after endemic. In health service facilities, washing hands is one part of patient safety. Infections in patients that occur in hospitals and health service facilities are still a problem in the world, including in Indonesia. Health workers have a big role in the transmission of this infection. However, the low level of hand hygiene compliance among health workers is still a factor in the high spread of infections in health service facilities. Based on the results of the journal review above, the compliance of health workers in hand hygiene who have received education or training varies greatly. The results of research conducted in the inpatient room of RSUD Ir. Soekarno Sukoharjo with the majority of nurses having attended training related to hand hygiene reached 95.3% (Saari & MP; Saari, 2023). Another study stated that the hand hygiene compliance of anesthesiologists when performing induction reached 4.7% (Schmutz et al., 2023). The results of research conducted on nurses at health centers with hand hygiene compliance rates reached 12.4% (Paudi Cake, 2022). Research on all health workers involved in the service found that the compliance rate reached 17.26% (Bale et al., 2021), there were not differences (18.6%) from the compliance results reported by Patrick, et al. (2022). There are many factors related to health workers' compliance in implementing hand hygiene. Several research results show that there is a relationship between age, gender, length of work, knowledge, availability of facilities, rules and social environment and nurses' compliance with hand hygiene. The risk factors that most influence health workers' hand washing compliance are knowledge, gender, age and attitude of health workers, followed by training, workload, health facilities and co-workers. Knowledge and attitude factors of health workers are related to the level of hand washing compliance of health workers.

Analysis of Predictors of Five-Moment Nurse Handwashing Compliance

Lawren Green's theory showed that a person's behavior is influenced by three factors, namely Tendency Factors, Booster factors and Supporting Factors. Research conducted by Fhirawati et al. (2023) showed that attitudes and

skills have a relationship with a person's level of compliance in doing hand hygiene, where good attitudes and skills can increase hand washing compliance. Direct education related to hand hygiene and the availability of alcohol-based hand rub can improve hand hygiene compliance in hospitals, with the results of hand hygiene compliance before intervention of 23.1% to 61.5% after intervention (Fitriah Efendy & Hutahaeen, 2022). The compliance of nurses at RSUD Ir. Soekarno Sukoharjo, the majority of whom had attended training related to hand hygiene, reached 95.3% (Saari & MP; Saari, 2023), hand hygiene compliance of hospital health workers in Vietnam reached 31%, the majority (86.2%) of health workers stated that hand hygiene facilities were complete and comfortable (Le et al., 2019). Based on the research review, several factors were found that influence the compliance of medical personnel in carrying out hand hygiene. Lack of knowledge about five moments hand hygiene is one of the obstacles to carrying out five moments hand hygiene according to recommendations. With increasing knowledge about the dangers of nosocomial infections, nurses are obedient in carrying out five moments of hand hygiene so that patients do not get additional illnesses. High nurse motivation will increase nurse compliance in carrying out hand washing practices. Motivation is a psychological process that can explain a person's behavior. A person's motivation is related to needs including the place and atmosphere of the work environment so that working nurses experience a decrease in motivation which results in unsatisfactory work results and causes the nurse's actions to decrease. Where the motivation is good, the practice of hand washing is also good and vice versa. The availability of hand washing facilities influences nurses in carrying out hand washing practices. Incomplete and inadequate hand washing facilities will result in nurses not being able to practice hand washing and hand washing practices being inadequate. Adequate hand washing facilities support nurses' compliance in washing hands. So that nurses can work optimally, the provision of necessary hand washing facilities needs to be considered.

4. CONCLUSION

Based on a literature review of 15 research journals, namely Google Scholar, Science Direct and Pubmed, it could be concluded that the compliance of health workers in performing five-moment hand hygiene varies greatly and the predictors that influence it are also very

diverse. Suggestions for future researchers to be able to conduct research related to factors associated with compliance in the implementation of hand washing as a basis for infection prevention in health services.

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