



FACTORS AFFECTING HAND HYGIENE OF HEALTH CARE PROVIDER TO PREVENT AND CONTROL INFECTION IN NEW NORMAL ERA DUE TO COVID-19 PANDEMIC

Nursing

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ABSTRACT

Failure to perform good hand hygiene is considered as an major cause of HAIs. From the WHO data, compliance rate of nurses hand hygiene activity at the United States is about 50%, Australia 65% while in Indonesia 47%. This study aims to determine the factors that affect hand hygiene compliance. This research method is analytical descriptive with cross-sectional approach. The object of data collection is an health officer (consultant doctors, resident doctors and nurses) at X Hospital in Bandung as many as 61 samples. Sample selection using stratified sampling method with research instrument in the form of questionnaire and observation sheet about knowledge and attitude to hand hygiene adopted from WHO. The results in the group of nurse were 63,16% doing imperfect hand hygiene and group of consultant consultant and doctor of resident respectively 47,06%. In terms of nurses knowledge about hand hygiene is 42.11%, consultant physician 52.94% and 48.00% resident doctors are included into either category. In terms of attitudes about the implementation of hand hygiene, the nurses group is 70.59% while physician consultants and resident doctors respectively 47.06% and 44.00% have a positive attitude. In terms of facilities is 89.47% nurses stated available, where as consultant physicians and resident doctors amounted to 82.35% and 84.00%. There was a significant relationship between hand hygiene with knowledge ($p = 0,02$) and hand hygiene facility ($p = 0,000$). From these findings the hospital needs to improve knowledge and positive attitude in terms of hand hygiene.

KEYWORDS

Attitude, Hand Hygiene, Health Care Provider, Knowledge, New Normal Era

INTRODUCTION

HAIs has been an health problem worldwide. HAIs can cause serious illness, increase hospitalization day, reducing hospital image or health services, also may result in lawsuits (Kepmenkes RI, 2017). CDC's study of the incidence of HAIs was recorded at 721,800 incidents. While the British health agency noted that there are more than 4 million European citizens affected by HAIs and about 37,000 people died from the infection. (Australian Commission for Safety and Quality in Healthcare, 2010; Rosenberg, 2016)

The role of all parties is certainly needed in overcoming this HAIs problem, including health care providers which primarily engaged in actions with the primary intent of enhancing health. Health care providers move from patient to patient carrying out a number of tasks and procedures. Quality of service by health personnel can be measured by using clinical quality indicators, one of which is the implementation of care that ensures patient safety, one of which compliance with hand hygiene. (Public Health Ontario, 2014; WHO, 2022)

Hand hygiene is a simple act and one of the key cornerstones of COVID-19 prevention. Now more than ever as we embrace the new normal and live with COVID-19, hand hygiene needs to become an integral part of our daily routine and our lives, as we live through this pandemic, and beyond, to protect us from diseases. Several studies suggest that failure to perform proper hand hygiene is regarded as the leading cause of HAIs and the spread of multi-resistant microorganisms in health facilities and has been recognized as an important contributor to the outbreak. (UNICEF and WHO, 2021; Queensland Health, 2020)

Implementation of hand hygiene itself has not received serious attention. One-third of the world's health facilities lack hand hygiene resources at the point of care. The causative factor is triggered by the limitations of hand hygiene facilities by 17% after toilet use, such as sinks, paper towels, hand dryers and antiseptic fluids. But when there are facilities, the next obstacle is the lack of awareness of health workers to perform hand hygiene procedures. It is a challenge for hospital infection control teams to promote hand hygiene programs. As per the WHO guidelines, the Ministry of Health establishes the principle of "six step" handwashing and "five moments" (Quality Improvement Organizations, 2020; Haque, 2020; Quattrochi et al., 2021)

Study literature about hand hygiene performance acquired over all performance 47% UK, United States is about 50% and in Australia it is still around 65%. (Global Handwashing Partnership, 2021). Nationally, hand hygiene compliance rate was 47%. While hand hygiene compliance rate at Hospital X in Bandung compliance of health officer was only about 70.35% in April 2021. (Ellison et al., 2017; Dwipayanti et al., 2021)

The findings at Hospital X in Bandung in the implementation of hygiene compliance of health personnel hand were not maximized. Implementation figures of hand hygiene each month has not reached 100% of the target. Compliance rate of hand hygiene at consultant physician equal to 69,78% while resident doctor equal to 61,28% and nurse compliance rate in carrying out hand cleanliness equal to 79,99%.

Research Method

The type of research used is quantitative research. The research design used is analytical descriptive research with cross-sectional approach. The population studied were nurses, specialist doctors and students who served in Hospital X Bandung that as many as 155 health workers scattered in 4 inpatient rooms. The sample calculation using Slovin formula with standard error of 10% to get 61 sample consisting of 19 nurses, 25 doctor resident and 17 consultant doctors. Sampling technique using stratified random sampling method.

This study used a questionnaire from WHO to determine the level of knowledge and attitudes of health officers on compliance of hand hygiene and observation sheet to assess the implementation of hand hygiene and hand hygiene facilities availability using the principles of 5 moment and 6 step. Analysis of univariate data will get the result of frequency distribution of knowledge, attitude and availability of handwashing facilities for health care provider. Bivariate test is then done by connecting the three factors with the implementation of hand hygiene by using statistical test Kolmogorov - Smirnov.

RESULT AND DISCUSSION

In the present study, effect of crumb rubber as fine aggregate replacement on the compressive strength of concrete having mix proportions of 1:1.31:1.14 was investigated. The percentages of replacements were 0%, 10 %, 20% and 30% by weight of fine aggregate. Tests were performed for compressive strength or all replacement levels of crumb rubber at different curing periods (7-days & 28-days).

Table – 1 Frequency Distribution

Factors affecting hand hygiene	Category	Group					
		Nurse		Consultant Doctor		Residen Doctor	
		n	%	n	%	n	%
Knowledge	Less	0	0,00	0	0,00	0	0,00
	Enough	11	57,89	8	47,06	13	52,00
	Good	8	42,11	9	52,94	12	48,00
Attitude	Negative	7	36,84	9	52,94	14	56,00
	Positive	12	63,16	8	47,06	11	44,00
Hand hygiene facilities	Not available	2	10,53	3	17,65	4	16,00
	Available	17	89,47	14	82,35	21	84,00

Source : Primer Data

From Table 1 it is known that the highest knowledge percentage for good category is consultant physician (52,94%), for the highest enough category is nurse (57,89%) and for category less 0%. The percentage of positive attitude for the highest hand hygiene is nurse (70,59%) while the highest negative attitude percentage is resident doctor (56%). While the availability of facilities hygiene hand that argue not available complete the highest percentage is a consultant doctor (17.65%). While the opinion that facilities hygiene hand available with the highest complete is nurse (89,47%).

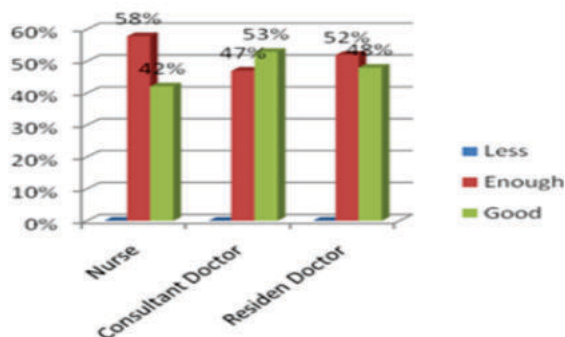


Diagram 1. Description of the level of knowledge with hand hygiene execution

In terms of nurses knowledge about hand hygiene is 42.11%, consultant physician 52.94% and 48.00% resident doctors are included into either category. The higher a person's education the easier the person is to receive information. With higher education then someone will tend to get information. The more information that attained, the more knowledge gained about health. From the research result, the level of knowledge of health officer shows that the highest level of knowledge of the consultant doctor is the knowledge with good category that is 52,94%, the resident doctor with the highest percentage is knowledge with enough category that is 52%. While the nurse with the highest percentage with sufficient category that is a number of 57,89%.

Education is an attempt to develop personality and abilities in and out of school and lasts a lifetime. Education affects the learning process, the higher a person's education the easier the person is to receive information. With higher education then someone will tend to get information, either from other people or from mass media. The more information that attained, the more knowledge gained about health. (Abalkhail et al., 2021; Dwipayanti et al., 2021)

Table – 2 Relation Of Knowledge Level, Attitude And Hand Hygiene Facility With Hand Hygiene Implementation

Factors affecting hand hygiene	Category	Hand Hygiene Execution						P value
		Not executing		Execute		Executing perfectly		
		n	%	N	%	n	%	
Knowledge	Less	0	0	10	16,40	0	0	0,02
	Enough	0	0	22	36,06	19	31,14	
	Good	0	0	0	0	10	16,40	
Attitude	Negative	8	13,12	18	29,50	4	6,56	1,000
	Positive	2	3,28	23	37,70	6	9,84	
Hand hygiene facilities	Not available	9	14,76	1	1,64	0	0	0,000
	Available	1	1,64	41	67,22	10	16,40	

From Table 2, it is known that there is a relationship between knowledge and hand hygiene facilities with hand hygiene practices with p-value values of 0.02 and 0.000. As for the attitude there is no relationship with the implementation of hand hygiene (p-value 1.000). A person's or society's behavior on health is determined by knowledge, attitudes, beliefs, traditions, etc. from the person or society concerned. The higher the level of a person's understanding of the instruction will be the more obedient someone runs the instruction. [3]

Based on the interview data to the respondents, it is known that for hand hygiene with 5 steps and 6 moments have been socialized by the quality team Hospital to every health worker. Ranging from the ways, impacts, benefits of handwashing for patients, patients' families and

health workers. Each shift operands are also always reminded of hand hygiene so that the knowledge of health workers is good. Therefore the incidence of nosocomial infections can also be suppressed because all already understand the benefits of maintaining hand hygiene. (Dwipayanti et al., 2021; Nuwagaba et al., 2021)

The results showed no relationship between attitude with the implementation of hand hygiene on health workers with p value 1.00. Attitude is a readiness or willingness to act and not an exercise of a particular motive. Attitudes are not yet an action (open reaction) or activity, but are predisposing behaviors (actions), or closed reactions. Attitudes are still a closed response to a stimulus, so sometimes the responses received do not match the activities performed by the respondents. [5], [6]

Result of research indicate there is relation between availability of hand hygiene facility with hand hygiene implementation to health officer with value p value 0,00. Availability of hand hygiene facilities will improve compliance in hand hygiene practices. Limited access to the sink affects the decrease of compliance in hand washing with water and soap. [7]. This is in line with the reality in the field. Health officials say that if the hygiene facilities are complete, then they will do hand washing. This is because health workers are aware that maintaining hand hygiene can protect them from transmission of infection. They want always available tissue or hand dryers. [8]

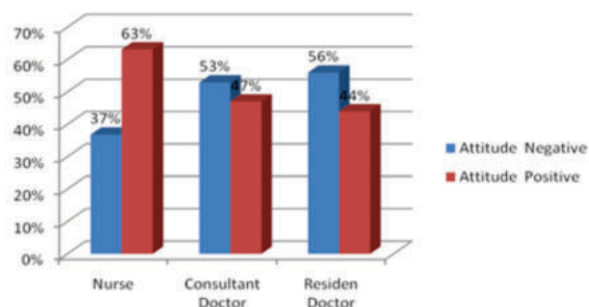


Diagram 2. Description of the level of knowledge with hand hygiene execution

In terms of attitudes about the implementation of hand hygiene, the nurses group is 70.59% while physician consultants and resident doctors respectively 47.06% and 44.00% have a positive attitude. Specific beliefs and perceptions are found in a doctor who has an impact on the lack of adherence to best practice. The results showed that the attitude of the group of nurse respondents with the highest percentage was the positive attitude that is 70.59%, the highest percentage of the respondents were the negative attitude of 52.94%, and the respondent group with the highest percentage was negative attitude, 56%. In general, the majority of consultant doctors and resident doctors show a negative attitude towards hand hygiene.

Specific beliefs and perceptions are found in a doctor who has an impact on the lack of adherence to best practice. While other health workers consider doctors as role models, doctors often do not see themselves as such. In addition, doctors appear to be more skeptical than other professionals about hand hygiene practices. The behavior of a person or society about health is determined by knowledge, attitudes, beliefs, traditions, etc. from the person or society concerned. In addition, the availability of facilities, attitudes, and behavior of health workers to health will also support and strengthen the formation of behavior. (Alene et al., 2022; Roshan et al., 2020)

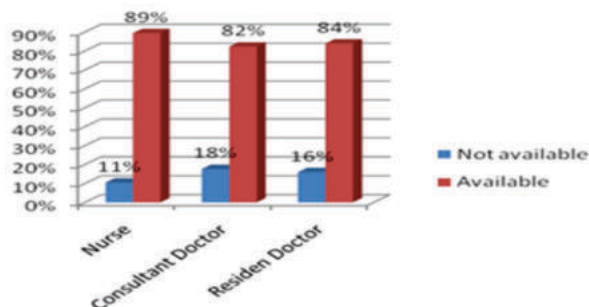


Diagram 3. Description of the level of facilities with hand hygiene execution

In terms of facilities is 89.47% nurses stated available, where as consultant physicians and resident doctors amounted to 82.35% and 84.00%. Standard of hygiene facilities with water and soap is the available of sinks, soap, tissues, standard operational procedures on hand hygiene (posters).

The results of this study indicate that each group of respondents has the availability of hand hygiene support facilities with each percentage of nurse respondents group of 89.47%, respondent group consultant doctor 82.35%, and respondent group of resident doctors amounted to 84%. Standard of hygiene facilities with water and soap is the available of sinks, soap, tissues, standard operational procedures on hand hygiene (posters). Study literature acquired facility not available such liquid soap 20%, one time use paper towel (87%), alcohol based rub (5%) and cloth towel (8%). [11][12]

CONCLUSIONS

The level of knowledge, attitude and facilities of the majority in health care provider (nurse, consultant doctor and resident doctors) in the enough category. Compliance in applying hand hygiene can also be influenced by many factors, especially in the availability of facilities provided by the hospital. therefore for optimal application there needs to be harmony between the needs and desires to achieve an optimal degree of patient safety

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