

Analysis of Strategies to Improve Service Provider Hand Hygiene Compliance at Dono Tulungagung Community Health Center

Byba Melda Suhita^{*}, Danang Andhika, Amrul Chasanah, Meidya Sri Wulandari, Nanik Azizah

Master of Public Health, Institut Ilmu Kesehatan STRADA Indonesia, Kediri, Indonesia

**Corresponding author: meidya_drg05@yahoo.co.id*

ABSTRACT

The problem found at the Dono Tulungagung Community Health Center was a decrease in the hand hygiene compliance achievements of health service providers who did not meet the National Health Center Quality Indicator target of 85%. The aim of this research is to analyze strategies for increasing hand hygiene compliance achievements. This research uses a qualitative method with a descriptive analysis approach. Primary data was obtained through direct interviews with sources. The analysis uses fishbone diagrams to identify problems, the USG (Urgency, Seriousness, Growth) method to determine problem priorities and SWOT analysis (Strength, Weakness, Opportunity, Threat) to identify strategies in determining intervention plans. Based on the results of the fishbone, USG and SWOT analysis, the implementation strategy that can be implemented is to re-socialize hand hygiene material and the importance of maintaining hand hygiene compliance for all service providers at the Dono Tulungagung Community Health Center and updating posters on each sink wall as a reminder and instructions on how to wash hands correct.

Keywords: Community health center, compliance, hand hygiene

Received: January 8, 2024

Revised: February 11, 2024

Accepted: March 18, 2024



This is an open-access article distributed under the terms of the Creative Commons Attribution-ShareAlike 4.0 International License

INTRODUCTION

In order to realize the goals of health development as stated in Presidential Regulation Number 18 of 2020 concerning the National Medium-Term Development Plan for 2020-2024, the Ministry of Health has set 6 (six) Strategic Goals, one of which is to increase quality universal health coverage. To achieve these strategic objectives, strategic goals were set, namely increasing the availability of Health Service Facilities and improving the quality of health services. Measurement of quality indicators is carried out with the aim of assessing whether the quality efforts that have been made by health facilities can really improve the quality of service significantly. In addition, measuring quality indicators can provide feedback to health care providers and health service facility management about the quality of services that have been provided, as evidence of public transparency, and can be a benchmark for comparison in identifying best practices for learning for other health facilities (Purba, 2021).

Currently, there are 6 (six) National Indicators of Puskesmas Quality (INM), namely Hand Hygiene Compliance, PPE Use Compliance, Patient Identification Compliance, Treatment Success Rate for Drug Sensitive TB (SO) Patients, Pregnant Women who receive ANC services according to standards and Patient Satisfaction. The six INMs must be measured by the Puskesmas and the measurement results must be inputted into the INM application periodically in accordance with the provisions contained in the indicator dictionary for each INM. Internal reporting is carried out in stages through the INM application, from the Puskesmas to the District/City Regional Health Office and then the results of the achievements of the District/City Regional Health Office are submitted to the Provincial Health Office.

One of the problems found at the Dono Tulungagung Health Center is the compliance of hand hygiene or hand hygiene from health service providers whose results are still below the target. The following is the data on the achievement of hand hygiene compliance at the Dono Tulungagung Health Center in 2023:

Table 1.1 Achievement of Hand Hygiene Compliance of Dono Tulungagung Health Center in 2023

Month	(Denum)	Num	% Achievement	% Target
January	192	170	88.54	85
February	205	175	85.37	85
March	200	163	81.5	85
April	201	162	80.6	85
May	201	161	80.1	85

Based on the data above, there was a decrease in the achievement of hand hygiene compliance that did not meet the target of 85% in the last three months, namely March achievement of 81.5%, April achievement of 80.6%, May achievement of 80.1%. Public health center must pay attention to the compliance of all service providers in carrying out hand hygiene in accordance with WHO regulations. The purpose of measuring compliance of health care providers is as a basis for improving and improving compliance in order to ensure patient safety by reducing the risk of health care-related infections. If the target is not met, the risk of infection related to health services will increase, so it is necessary to analyze the factors causing the decrease in the achievement of hand hygiene compliance of service providers at the Dono Tulungagung Health Center. After finding the causal factors, then identify strategies that can be used to improve the achievement of hand hygiene compliance of service providers at the Dono Tulungagung Health Center.

METHODS

This research uses qualitative methods with a descriptive approach to analysis. Data collection is carried out by going directly to the field, seeing, observing, collecting primary data through interviews directly to resource persons. Then analysis is carried out using fishbone diagrams to identify various potential causes of one effect or problem, analyzing the problem through discussion sessions. Problems are broken down into a number of related categories including humans, materials, machines, methods, money, the environment, and so on. Then, through the discussion session, problems that may be the cause of the main problems written on the head of the fish with its spines include several things, namely 6M (man, method, money, material, mother nature, machine), 5S (surroundings, suppliers, systems, skills, safety) (Kusnadi, 2020).

According to Oktriany et al., (2015), the steps for making a fishbone diagram include:

1. Agree on a problem statement.
2. Identify the category of the cause of the problem (6M, 5S or other).
3. Find potential causes by brainstorming.
4. Study and agree on the most likely causes.
5. Describe the results of the problem assessment in the form of a fish head with its spines.

Based on the identification of factors causing problems with fishbone analysis, then prioritization of problems is carried out with the ultrasound method (urgency, seriousness, growth). In this method, each problem is assessed for its level of risk and impact. The highest value is considered a priority problem that must be resolved immediately. The scoring step using the ultrasound method begins with making a list of root problems, making a matrix table of problem priorities with scoring weights of 1-5 (Wardani & Minarno, 2021).

Based on the prioritization of problems, then an intervention plan was determined in this study using SWOT analysis (strength, weakness, opportunity, threats) of internal and external factors in the Dono Tulungagung Health Center. SWOT analysis is carried out through the IFE (Internal Factor Evaluation) matrix which will describe the biggest strengths and weaknesses and the EFE (External Factor Evaluation) matrix which will describe the opportunity and threat factors owned by the Puskesmas and the IE (Internal External) matrix which shows where the current position of the Puskesmas is. All factors that have been collected are then given weights and ratings, as well as scores from the results of multiplication of weights and ratings. The score results determine which quadrant is the position of the Dono Health Center, to determine strategies that can be used in problem solving efforts.

RESULT

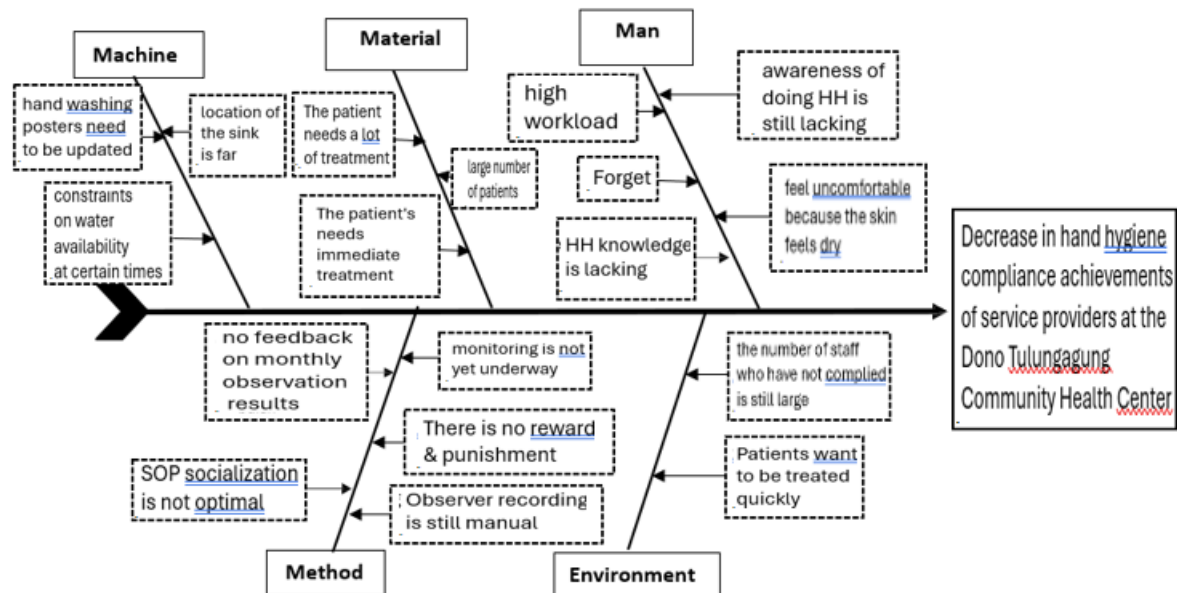
Identification of problems decreasing the achievement of hand hygiene compliance of service providers at the Dono Tulungagung Health Center is categorized using 4M + 1E, namely man, method, material, machine, environment. The descriptions of 4M+1E (man, method, material, machine, environment) that have been discovered include:

1. Man :
 - Hand hygiene knowledge is still lacking
 - Awareness of doing HH is still lacking
 - Forget
 - High workload
 - Feeling uncomfortable because the skin feels dry
2. Method :
 - SOP socialization is not optimal
 - Surveillance is not yet underway
 - No reward and punishment system
 - Observer recording is still manual
 - No feedback on observations per month
3. Material :
 - The patient's condition requires quick treatment
 - The patient needs a lot of action
 - Large number of patients
4. Machine :
 - Remote sink location
 - Constrained by water availability at certain times
 - Handwashing posters need to be updated

5. Environment :

- The number of non-compliant staff is still large
- Patients want to be treated quickly

Figure 1. Fishbone Diagram



Based on the identification of the factors causing the problem of decreasing the achievement of hand hygiene compliance of service providers at the Dono Tulungagung Health Center with fishbone analysis, then prioritization of problems was carried out using the ultrasound method (urgency, seriousness, growth). Here, prioritization of problems with ultrasound method:

Table 1. Priority of Problems with Ultrasound Methods

No	Indicators	U	S	G	UXSXG	Ranking
1	Knowledge about the importance of hand hygiene is still lacking	5	4	5	100	4
2	Awareness of doing HH is still lacking	5	5	5	125	1
3	Forget	4	4	4	64	12
4	High workload	4	3	4	48	16
5	Feeling uncomfortable because the skin feels dry if you wash your hands often	3	3	4	36	17
6	SOP socialization is not optimal	4	4	4	64	7
7	Supervision is not yet underway	4	4	4	64	8
8	There is no reward and punishment system	3	3	4	36	18
9	Observer logging is still manual	4	4	5	80	6
10	No feedback on observations per month	5	5	5	125	3
11	The patient's condition requires quick treatment	4	4	4	64	9

12	The patient needs a lot of action	4	4	4	64	10
13	The number of patients is large	5	4	3	60	14
14	Remote sink location	4	3	4	48	15
15	Constrained by water availability at certain times	4	4	4	64	13
16	Handwashing posters need to be updated	5	5	5	125	2
17	The number of staff who have not complied is still large	5	5	4	100	5
18	Patients want to be treated quickly	4	4	4	64	11

Based on table 1, the problems that need to be prioritized for resolution are:

1. Awareness of hand hygiene is still lacking
2. Handwashing posters need to be updated
3. No feedback on observations per month

Based on the prioritization of solving the problem above, to determine the intervention plan in this study is to conduct a SWOT analysis (strength, weakness, opportunity, threats) of internal and external factors in the Dono Tulungagung Health Center.

Table 2. Internal Factor Evaluation Matrix Calculation

NO	Analysis Factors Strength	Weight	Rating	Score
1	Support from Management	0,1	3	0,3
2	Quality Team	0,1	4	0,4
3	Infrastructure support (availability supporting infrastructure)	0,05	3	0,15
4	Support in the form of funds	0,1	3	0,3
5	Existence of SOPs for hand hygiene	0,1	3	0,3
Total Strength (S)		0,45		1,45
Weakness				
1	Awareness of doing hand hygiene is still lacking	0,12	4	0,48
2	Knowledge about the importance of hand hygiene is still lacking	0,1	4	0,4
3	SOP socialization is not optimal	0,1	3	0,3
4	No monthly feedback on observations for evaluation	0,12	4	0,48
5	The existence of infrastructure facilities that need to be updated	0,11	3	0,33
Total Weakness (W)		0,55		1,99
Total IFE			1	
S-W		1,45-1,99		-0,54

Table 3. Calculation of External Factor Evaluation Matrix

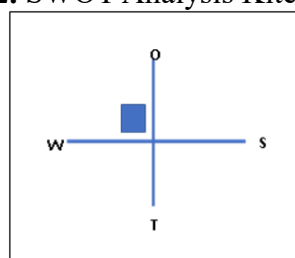
NO	Analysis Factors Opportunities	Weight	Rating	Score
1	Availability of the Ministry of Health's INM application for monitoring and evaluation	0,15	4	0,6
2	Quality coaching from the Health Office	0,13	3	0,39

3	Permenkes 34 of 2022 includes Quality as an accreditation indicator	0,11	3	0,33
4	Minister of Health Regulation 30 of 2022 supports the improvement of quality achievements	0,14	4	0,56
Total Opportunity (O)		0,53		1,88

NO	Analysis Factors Threats	Weight	Rating	Score
1	The patient's condition requires quick treatment so that he does not have time to do hand hygiene	0,11	4	0,44
2	The number of patients is large and accumulates at certain hours	0,11	3	0,33
3	Water availability is limited at certain times, for example during landslides	0,1	3	0,3
4	Officers feel the effects of dry and rough skin due to the frequent use of hand soap and handrub	0,15	4	0,6
Total Threats (T)		0,47		1,67
Total EFE		1		
O-T		1,88-1,67		0,21

From the calculation of the value of each internal factor which includes strengths and weaknesses, as well as external factors including opportunities and threats, the final value of S-W is -0.54 and the value of O-T is 0.21. The two S-W and O-T values are then depicted on a SWOT glider diagram to determine the position of the SWOT quadrant. From the results of the quadrant obtained then determined strategies that might be applied.

Figure 2. SWOT Analysis Kite Diagram



Based on the SWOT glider diagram in figure 2 above, a strategy that can be applied is in quadrant III or WO strategy, which is a strategy applied based on utilizing existing opportunities by minimizing existing weaknesses (Rangkuti, 2013).

Table 4. SWOT Matrix

Internal / External	Strength	Weakness
	-Support from Management -The existence of a quality team -Infrastructure support (availability)	-Awareness of hand hygiene is still lacking -Knowledge about the importance of hand hygiene is still lacking

	supporting infrastructure) -Support in the form of funds -Existence of SOPs for hand hygiene	-SOP socialization is not optimal -No feedback on observations per month for evaluation -The existence of infrastructure facilities that need to be updated
Opportunity	-Increased understanding, awareness of the importance of hand washing by conducting routine socialization every 3 months -Periodic maintenance and repair of the sink so that it can function properly -Attend training related to quality, especially hand hygiene compliance	-Re-socialization / refreshment of material and the importance of hand hygiene / hand hygiene -Update the means of reminder posters and instructions on how to wash hands properly -Optimize monitoring and evaluation of compliance achievements every month (input for management)
Threats	-Increased individual concern in each work unit to immediately replace bottles empty handrub with filled -Provision of water reservoirs for supplies when water dies	-Provide rewards and punishments as an effort that can be done to improve hand hygiene compliance
	-The patient's condition requires quick treatment so that it does not have time to do hand hygiene -The number of patients is large and accumulates at certain hours -Limited water availability at certain times such as during landslides -Officers feel the effects of dry and rough skin due to the use of hand soap and handrub that is too frequent	

Based on the SWOT analysis table above, WO strategies (in quadrant III) that can be applied include:

1. Resocialization / refreshment of material and the importance of hand hygiene / hand hygiene.
2. Update the means of reminder posters and instructions on how to wash hands properly.
3. Optimize monitoring and evaluation of compliance achievement every month (input to management).

DISCUSSION

Based on the results of fishbone, USG, and SWOT analysis, strategies that can be applied to improve hand hygiene compliance of health service providers at the Dono Tulungagung

Health Center are to hold socialization to refresh hand hygiene materials and the importance of maintaining hand hygiene compliance for all service providers at the Dono Tulungagung Health Center. According to Shekelle et al, strategies that have proven effective in improving hand hygiene compliance are completing hand hygiene support facilities, training / training related to hand hygiene, the existence of role models / leaders of each unit who provide examples and motivation to do hand hygiene, the use of visual aids in the form of posters / videos about hand hygiene, increasing staff motivation by providing incentives, and involving patients to remind staff to do hand hygiene well. The solution chosen in this study was to re-socialize hand hygiene materials to all health service providers at the Dono Tulungagung Health Center.

According to Green's theory in Arfianti which analyzes human behavior from the level of health, the health of a person or society is influenced by two main factors, namely behavioral factors (behavior causes) and factors outside behavior (non-behavioral causes). Furthermore, the behavior itself is determined or formed from 3 factors, namely predisposing factors, which are manifested in knowledge, attitudes, beliefs, values and so on; enabling factors, which manifest in the physical environment, the availability or unavailability of health facilities, such as handwashing facilities; and reinforcing factors manifested in the attitudes and behavior of health workers, or other officers who are reference groups, of community behavior. Changes in the behavior of new individuals can be optimal if these changes occur starting the internalization process, so that the new behavior is considered positive value for the individual himself and integrated with the values of his life (Arfianti, 2014).

Based on the theory above, to change the behavior of health service providers to carry out hand hygiene properly, namely by providing stimulus in the form of knowledge so that trust and confidence arise that hand hygiene is indeed important. Knowledge is provided by socialization with material on how to clean hands according to the standards of Infection Prevention and Control Guidelines (PPI) in Health Facilities. After receiving socialization, it is expected that all health service providers understand how to clean hands properly according to PPI standards and realize the importance of maintaining hand hygiene. According to an interview with the Head of Quality, the awareness of service providers, both health workers and non-health workers, is still very lacking. So efforts are needed to educate, remind and motivate so that compliance does not decrease.

In addition, efforts that can be made to improve hand hygiene compliance of health service providers at the Dono Tulungagung Health Center are updating posters on each wall of the sink as reminders and instructions on how to wash hands properly. Based on the researchers' observations that the available posters have undergone color changes, images are less clear and colors are less attractive. The installation of new posters according to WHO and PPI standards with attractive colors on the sink wall is expected to be a reminder and guide for every service provider. According to Sherman (2014) an attractive poster must have enough blank space, clear words, use images, easy to read, clear typeface and appropriate colors. If the poster is attractive, it will be able to attract the attention of individuals who see it.

According to Allegranzi et al. (2013), posters act effectively as a reminder in research on improving hand hygiene compliance. Looking at posters regularly for 8 months effectively increased handwashing compliance by 21.8% from 8% previously. In SOR (stimulus-organism-response) theory, stimulus provision using poster media is able to provide knowledge, shape attitudes and behaviors and can be a reminder so as to influence people who see to do as they know.

The follow-up plan of the strategy that has been carried out is that the Dono Health Center needs to monitor and evaluate the achievement of hand hygiene compliance rates of all health

service providers regularly. Monitoring and evaluation should be carried out regularly every month so that if there is a decrease in it can be immediately evaluated and improved to increase the achievement of hand hygiene compliance figures in the following month.

CONCLUSION

Based on the results of the problem analysis with fishbone, USG, and SWOT, the implementation of strategies that can be applied to improve hand hygiene compliance of service providers at the Dono Tulungagung Health Center is re-socialization / refreshment of materials and the importance of hand hygiene / hand hygiene as well as updating the sink wall poster facilities as a reminder and instructions on how to wash hands properly.

REFERENCE

- Allegranzi, B., Gayet-Ageron, A., Damani, N., Bengaly, L., McLaws, M.L., Moro, M.L., Memish, Z., Urroz, O., Richet, H., & Storr, J. (2013). 'Global implementation of WHO's multimodal strategy for improvement of hand hygiene: a quasi-experimental study', *The Lancet infectious diseases*, vol. 13, no. 10, pp. 843-51.
- Bardah D, Afriani T. (2021). Analisis Fishbone Dalam Meningkatkan Efektifitas Pelaksanaan Handover Di Rumah Sakit Pemerintah. *Jurnal Kepemimpinan dan Manajemen Keperawatan*, Vol 4 No 1.
- Fentiana N, Ginting D. (2020). Strategi Peningkatan Pendapatan Rumah Sakit Berdasarkan Analisis SWOT. *Jurnal Ilmiah Universitas Batanghari Jambi* 20 (3), 1008-1012.
- Gaol B, Sagita S, Koamesah S. (2019). Pengaruh Media Poster Terhadap Penerapan Five Moment Hand Hygiene Pada Perawat Rumah Sakit X Kupang. *Cendana Medika Journal* 6 (1).
- Oktriany WH. (2015). Strategi Peningkatan Mutu Pendidikan Menggunakan Diagram Ishikawa Di Sma Negeri 1 Suruh. *Jurnal Magister Manajemen Pendidikan Universitas Kristen Satya Wacana*.
- Pratama B, Koeswo M, Rokhmad K. (2015). Faktor Determinan Kepatuhan Pelaksanaan Hand Hygiene pada Perawat IGD RSUD dr. Iskak Tulungagung. *Jurnal Kedokteran Brawijaya*, vol. 28.
- Purba. (2021). Analisis Mutu Pelayanan Kesehatan Rawat Jalan Dari Perspektif Kepuasan Pasien Berdasarkan Status Akreditasi Puskesmas Di Kota Lubuklinggau. Diakses Juni, 2023 dari <http://repository.unsri.ac.id/id/eprint/61039>.
- Shekelle PG, W. R. (2013). *Making Health Care Safer II: An Updated Critical Analysis of the Evidence for Patient Safety Practices*. Agency for Healthcare Research and Quality, 1-945.
- Sherman, R.O. (2014). How to create an effective poster presentation. *American Nurse Today*, vol. Volume 5, pp. 13-5.
- Wardani, R., & Minarno, B. (2021). Strategi Pelayanan IPSM RSUD Dr Soetomo Surabaya Modifikasi Tata Udara Ruang Operasi Covid-19 Untuk Mendukung Kesehatan dan Keselamatan Kerja / K3 Rumah Sakit Pada Masa Pandemi Covid-19 Pendahuluan. 2(4),378–382.
- World Health Organization. WHO guidelines on hand hygiene in healthcare: first global patient safety challenge clean care is safer care. (2009). Retrieved from <http://whqlibdoc.who.int/publications/2>.