

High Reliability Organization in Medical Technology in Health Service

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ABSTRACT

Introduction: Medical technology in health services is often regarded as a solution to the quality of health services. This is because medical technology is considered a solution in reducing errors in medical decision-making. Technology in the world of health aims to increase the effectiveness and efficiency in medical services. The purpose of doing this research is to find out how the benefits of HRO theory are in realizing work safety in hospitals.

Methods: This research used a qualitative design for collecting the data from information obtained through the skype instrument. The number of respondents in this study was 15 respondents where 1 respondent was a pilot respondent who was interviewed early to develop questions that approached the HRO theory developed.

Results: The purpose of this research is to see how reliable emergency room nurses in hospitals in the safety of patient care through questions created based on five basic principles of high-reliability organization. Safety programs in health services are developed through high-reliability organization theory and are used to enhance safety culture and guide organizations in Indonesia to learn from mistakes that have occurred but these cannot be measured as numbers.

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Conclusion: High reliability organizations can assist in a comprehensive approach to assisting health service organizations in providing effective and reliable services and interventions. By using the principles in high reliability organization, an organization can take valid steps to support the sustainability of a system free from errors.

Keywords: Reproducibility of result; Safety management; reliability

Introduction

Health services in Indonesia are in dire need of reliable personnel to health services and equitable distribution of health workers. The government must create an equal distribution system for health workers including the needs of nurses and the welfare of nurses must be considered⁶. All Indonesian people must have health insurance that they can use without having to go through a very long and long-lasting bureaucracy. Nurses who work in health services must be tested and have certification and experience in their fields, and management who work in health services must be aware of the importance of inspection and improvement of the performance of nurses who work in their hospitals⁷.

Good communication between health workers is an additional solution to create a work environment that has a high safety and work ethic. If irregularities are found in the health service, positive remedies and interventions must be carried out immediately to prevent the recurrence of the error⁸. Finally, there must be an evaluation of the performance of health services of all hospitals be it government hospitals or private hospitals so that the performance of hospital services can be generalized without the term that service at hospital X is better than at hospital Y even though patients are in the same class and same disease⁹.

Safety performance in health care culture must adopt theories from HRO that have long been used in the nuclear and aviation world. The principles applied by HRO here are to improve safety performance by outlining the principles of HRO. The principle of HRO is used by breaking it down some questions related to the HRO principle to provide an in-depth overview of all parties involved in an organization and who have many roles to play in the organization's regulation. Every organization should have the design for the questions to be asked in determining the extent to which the organization is said to be reliable.

HRO in Medical technology in health services

Medical technology in health services is often regarded as a solution to the quality of health services. This is because medical technology is considered a solution to reducing errors in medical decision-making. Technology in the world of health aims to increase the effectiveness and efficiency of medical services.

However, technology is not the only solution to improving patient safety in health services, many other factors contribute to medical health services because many are found to lack adjustments to the software or technology used in many hospitals. Initially, the hospital staff reported the results of the service, is based on what was obtained from examinations issued by health technology, but the medical staff still had to pay attention to complaints or symptoms from patients because the status of the results of health technology did not always match what was experienced by the patient.

Methods

The design used in this study is a qualitative design in which the researcher collects primary data from information obtained through the skype instrument, namely through skype the researcher conducts direct interviews with respondents using questions adopted from the HRO theory developed by Karl E. Weick and Kathleen M. Sutcliffe in his book entitled "Managing the Unexpected". The number of respondents in this study was 15 respondents where 1 respondent was a pilot respondent who was interviewed early to develop questions that approached the HRO theory developed. Then the data collected will be analyzed using the SPSS method. The instrument used in this study was a questionnaire or questions that had been prepared based on the theory adopted from a book written by Karl E. Weick and Kathleen M. Sutcliffe entitled "Managing the Unexpected". Besides skype media is one of the social media that can record interviews between researchers and respondents clearly and accurately. Researchers chose to use Skype because they were very aware of how difficult it was to determine the time to meet with respondents because their time was very limited because they were faced with work and time with their families, so the method of interviewing through Skype was considered very effective for this study. In addition, with Skype, we can record conversations so that research results can be accurate and reduce bias for the results of this research.

The subjects used in this study were nurses who served in the hospital emergency room both permanent and non-permanent nurses. There are 3 permanent nurses and 11 temporary nurses, 1 pilot study is a non-permanent nurse. The hospital emergency room is chosen because the rhythm of work in the hospital emergency room must be fast and accurate and involves the life and death of patients, wrong medical action, the consequences, which can be fatal and even lead to death, as well as the delay in medical action, it can be fatal to patients, therefore HRO theory is very appropriate to be used for emergency room nurses.

The emergency room nurses are selected with permanent and non-permanent status to see how the two nurses view the hospital's performance in patient safety. Why is the number of non-permanent nurses more than non-permanent nurses because the number of non-permanent nurses in the hospital is indeed small and there are only 3 people working in the emergency room and the rest of the non-permanent nurse.

Result

Respondents selected in this study were nurses working in the Emergency Department (Emergency Installation) hospital which consists of two employment statuses, namely permanent employees and temporary employees. All respondents selected were respondents who had experience working in the hospital emergency room either old or new to look for comparisons between them.

The ER nurse was chosen as a respondent in this study because I worked at the hospital as an ER doctor since 2013 so it has been about six years and I have known the character and personality of the nurses working there. It is not easy to choose nurses who can be honest and open to telling the problems that occur at the hospital and again this interview risked their position as emergency room nurses where if their answers were slightly distorted or contrary to the reality of what happened it would cause them to be able to or considered to be making it up just because of frustration at the conditions they experienced while working in the emergency room.

In this study, emergency room nurses with permanent and non-permanent employees were selected as research respondents because we can see a more varied perspective between employees with permanent and non-permanent status in hospital management. This perspective can be influenced by income problems that are very lame between permanent employees and non-permanent employees, where the salaries of permanent employees and non-permanent employees are very much different. Another problem that can change their perspective is that non-permanent employees sometimes have no salary paid for three consecutive months.

Emergency room nurses were chosen as research respondents because emergency room nurses are role models in hospitals and are first-line staff who have more intense direct contact with patients compared to other hospital staff. For example, the patient first enters the nurse who checks first then the doctor, then the nurse reports the patient's condition to the doctor, after that the doctor checks and submits the next action to the nurse, and so on. In addition, emergency nurses can also represent how the regulation and performance of a hospital in patient medical services.

Discussion

Interview Preliminary Questions

All respondents in this study answered that they had heard about patient safety, but not all respondents were able to explain correctly what the patient was. As an example:

"In my opinion, after all, a safe patient is how we treats patients according to the SOP, the patient starts coming to the handler and the action must be following the SOP, because if we are not who our patient is, we don't know if there is any infectious disease or not" . (Respondent 4)

"Safe patients are usually patients who enter the hospital from the emergency room usually are infectious patients." (Respondent 8)

Respondents who answered were and can explain correctly there are 11 respondents and for respondents who answered ever but the explanation is less precise there are 2 respondents. Respondent who answered that they have never been able to explain what a safe patient is the respondent 6. Overall all respondents answered that they had heard about a safe patient.

The Selection of different shifts in this study is because the research respondents who are emergency room nurses not only work in one shift but in three shifts and between them are more dominant shift, then shifts are more dominant than each choice shift respondents at each interviewers. It is also known that the workload of the night shift is heavier than the morning shift and the afternoon shift because the night shift IGD nurses should take a break instead of having to perform medical services for patients who come in the middle of the night whose arrival hours are uncertain, it could be while they are asleep.

In addition, night shift nurses seldom getting the hospital management people down directly to the emergency room to look at the activities of nurses in the emergency room. This is because management people enter at 8 am and leave at 4 pm so only hospital shifts and afternoon shifts can be seen by hospital management people. Respondents who work on the night shift are 7 people, respondents who work on the morning shift are 6 people and respondents who work on the afternoon shift only amount to 1 person.

The training that was attended by respondents varied greatly but in general most of the respondents had participated in training related to safe patients. However, it was found 5 respondents had never participated in training and the rest had participated in training related to safe patients. 5 respondents had attended BTCLS (Basic Trauma Life Support) training or basic training in cardiac emergency. Some respondents who have attended ATLS (Advance Trauma Life Support) training or emergency training in trauma patients.

In addition, some respondents had attended PPDG (Emergency Care Education and Training) and also had attended training on how to use APAR (Light Fire Extinguisher). Another training that had been attended by the research respondents was BHD (Basic Life Support) training. Then finally, the training that was attended by respondents was PPI (Infection Prevention and Control) training. This is very much fulfilled by the high cost of training and the free time they have to attend the training.

For the second question, respondents who answered that they had seen the incident of their colleague in the emergency room had happened almost wrongly stabbed, almost wrongly given the medicine, and almost mistaken treatment of 10 people.

"Oh, yes, I have been in the midst of a change of service. So, the story is we are operands, and there are patients, that must be my friend. Coincidentally, I am just an official, but my shift friend is almost close, but fortunately the medicine has not been included, so the opera seems not to be too high, not too clear

because there are more patients. The one who just entered the emergency room was the one who was wrong, not the medicine, it turns out that the drug was injected and almost inserted, fortunately it didn't work "(Respondent 1).

For example, in a recent incident, one of my friends gave the wrong drug, not wrong, why is it wrong, he just wrote wrong, it turns out he put drugs into a baby patient that should not be for babies, just reading errors. Actually, including negligence" (Respondent 14).

This is probably due to several factors, one of which is the response of the patient when the emergency room nurse wants to take medical action such as a pediatric patient who is raging, thus breaking the concentration of the emergency room nurse in performing medical actions, operand patient information at the time of shifting inaccurate and less accurate fatigue from nurses resulting in decreased concentration in medical treatment.

Respondents who answered that they had never seen the incident were almost wrong punctured, almost wrongly given medicine, and almost wrong treatment was 4 people.

"During this time, while I was in the IGD there was never one wrong action, wrong giving medicine Thank God never sometimes not following the actual operational standards, sometimes not according to the theory carried out, the action is not according to theory and not according to SOP" (Respondents 5).

"If what I got so far, Alhamdulillah, it hasn't been there yet and hopefully it won't happen because we at IGD always have it applied. 7 patient safety targets and posted on the table at the nurse's table. So we always remember every action we check carefully First."(Respondent 9).

Communicate and exchange information, especially information relating to patient safety and emergency staff themselves. There were 12 respondents who answered.

"Usually, in one month, there are sometimes two to three small meetings in the emergency room to review events that have occurred in some time, good, actually if we from the staff of the IGD share information, so that other pressures can be known as the new information "(Respondent 3).

"If it's active, it's a doc to exchange information, usually every month we have a meeting to discuss what's lacking in the room, what's the problem, usually every month we have a meeting like that. Usually, it's not because in IGD we shift so we don't all come except only on official days because they must guard the emergency room "(Respondent 9).

Based on the results of interviews conducted by researchers, it can be concluded that the hospital has the ability to encourage staff to foster good communication related to patient safety and emergency staff themselves so that self-awareness is formed within the staff that is their initiative in conducting communication between peers whether it's during the watch shift or when they have free time if there are few or no patients. So they can more often exchange new information that can increase their knowledge.

The risk of lack of safety behavior where the emergency room is a place where speed is needed in an

act of handling patients and nurses must be able to keep working by following the applicable SOPs. This situation is very contradictory and as we know that work by following the SOP requires a long and long time. We also want to see how the actions of nurses who are able to work in accordance with the SOP while maintaining patient safety. The theory or concept of HRO applied in this study also looks at how risk behavior or nurses' risk behaviors in which emergency nurses work long hours tend to be easily exhausted so that for the next service where he is exhausted it can cause accidents in work which will have an effect in handling medical patients. Besides the character of the nurse herself who does not pay attention to how to work by following the SOP or is ignorant of the patient because of fatigue for example, there is one of the respondents who said that he did not listen to accident patients who come in the middle of the night who need immediate help because he is sleeping.

Position above Expertise

The fifth principle of the HRO we see is how the emergency room nurse will ask for referrals when faced with a difficult situation in performing the medical treatment in the emergency room if in that situation there are staff in higher positions but less skilled and there are staff in lower positions but experts, still found the respondents who are temporary employees will tend to ask for referrals from higher positions because employees do not remain afraid that if something happens or something goes wrong with their medical actions, people who have higher positions will be more able to overshadow them than if they ask for referrals to more an expert but his position is lower, because if they ask for a referral from an expert but his position is lower than if a mistake occurs then the nurse will not get stronger protection if he asks for a referral to a higher position but less expert.

The hospital is in the eyes of some nurses whose temporary status is highly upholding one's position. As long as you have a higher position that means you have more power. The hospital's leadership is not the head or director of the hospital but there is still the highest leader, namely the leadership of the organization that houses this hospital. This means that all forms of regulation in the hospital must be known to the highest leadership of the hospital.

The hospital saw how the emergency room nurse worked and whether it was following the SOP or not if it was following the SOP then this would be a special note for the hospital to then explain at the monthly meeting held every month and attended by all leaders of the room. The follow-up of the head of the room including the head of the ER will reprimand that if he made a mistake^{14,15}.

Poor patient safety can also be caused by the insensitivity of the emergency room to the situation of the patient. One of the respondents we interviewed was among those who said that they had once visited a patient where the patient's condition as usual was not dying and the complaint was not too significant, then the emergency room doctor performed the examination only with the naked eye by looking at the patient with the invisible eye the doctor said the patient was still safe and no investigations were carried out and

finally the patient was told to go home. The next day the patient returns with a worse condition the possibility of this patient suffering from certain diseases that worsen his condition due to not getting treatment. Only then the patient was treated.

Conclusion

In this study what has not been achieved is the lack of hospital samples used as a comparison. Further research needs to be done involving several hospitals both government-owned hospitals and private hospitals so that the results obtained can be more convincing that the same situation also occurs in the emergency department of other hospitals. Future research plans will carry out the same research using a larger sample of emergency nurses, nurses on duty in nursing or other parts of the hospital, and nurses on duty from several hospitals and comparing between government and private hospitals.

Conflicts of Interest

There is no conflict of interest

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