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Understanding Nurses Experiences and Perception about The Implemention of Emergency Monitoring : A Qualitative Study

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ABSTRACT

Emergency monitoring in the hospital is very important to be carried out, as one form of responsibility for early detection of deterioration patients. The implementation of the Early Warning System in Hospital is still being evaluated by the quality of service to find out its effectiveness. The purpose of this study was to explore the experiences and perceptions of nurses about the implementation of emergency monitoring in hospital. This study was a qualitative design. Participants were 6 female team leader nurses, with average age 35.3 y.o, and average working experience 11.3 years, used purposive sampling. Data were collected by in-depth interviews and field notes. Data were analyzed using thematic analysis method by Flick. The findings of the study identified 3 themes: (1) personal themes; (2) environmental themes; (3) Patient themes. The results showed that the implementation of emergency monitoring in the inpatients units in hospital was still not optimal. The implementation of the Early Warning System is expected to be carried out on an ongoing basis so that its implementation is effective. Socialization, training, supervision, and adequate infrastructure are needed as well as consistency algorithms for early identification of the patient's condition and getting immediate assistance.

Keywords: Early Warning System, Emergency Monitoring, Nurse Experience, Nurse Perceptions

ABSTRAK

Pemantauan kedaruratan di rumah sakit sangat penting dilakukan, sebagai salah satu bentuk tanggung jawab untuk deteksi dini kemunduran pasien. Penerapan Sistem Peringatan Dini di Rumah Sakit masih terus dievaluasi kualitas pelayanannya untuk mengetahui efektivitasnya. Penelitian ini bertujuan untuk mengetahui pengalaman dan persepsi perawat tentang pelaksanaan pemantauan kegawatdaruratan di rumah sakit. Penelitian ini merupakan penelitian kualitatif. Peserta penelitian adalah 6 perawat ketua tim wanita, dengan usia rata-rata 35,3 tahun, dan pengalaman kerja rata-rata 11,3 tahun, menggunakan purposive sampling. Pengumpulan data dilakukan dengan wawancara mendalam dan catatan lapangan. Data dianalisis menggunakan metode analisis tematik oleh Flick. Temuan penelitian mengidentifikasi 3 tema: (1) tema pribadi; (2) tema lingkungan; (3) Tema pasien. Kesimpulan: Hasil penelitian menunjukkan bahwa pelaksanaan pemantauan kegawatdaruratan di unit rawat inap rumah sakit masih belum optimal. Penerapan Sistem Peringatan Dini diharapkan dapat dilakukan secara berkesinambungan agar pelaksanaannya efektif. Dibutuhkan sosialisasi, pelatihan, supervisi, dan infrastruktur yang memadai serta konsistensi algoritme untuk identifikasi awal kondisi pasien dan mendapatkan bantuan segera.

Kata Kunci: *Sistem Peringatan Dini, Pemantauan Darurat, Pengalaman Perawat, Persepsi Perawat*

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INTRODUCTION

Nurses are the forefront in patient care, because nurses always provide care and accompany the patients for 24 hours (Chua, Mackey, Ng, & Liaw, 2013). However, there is variations of nurses in education and experience levels in handling patients in each shift. This results in often providing different nursing care to patients. The inability to recognize the patient's deterioration condition will increase morbidity (Hogan et al., 2012). As a provider of nursing care services, nurses are required to carry out the task of monitoring the patient's condition. Less experienced nurses are less abilities to recognize the signs of a patient's deterioration and need more time to assess the deterioration conditions and prioritized them (Berkow, Virkstis, Stewart, & Conway, 2008; Chua et al., 2013; Irland, 2012). Lack of confidence in this matter is also one of the factors, so that the decisions and interventions they take are also relatively slower in handling the deterioration of patients (Irland, 2012). Rescuing the patient from adverse events is the role of a nurse (Chua et al., 2013).

Nurses are in an important position to improve patient safety because of their proximity to patients. This position provides nurses with the insights needed to identify problems in the health system and become part of the patient safety solution (Friesen, Farquhar, & Hughes, 2005). The World Health Organization (WHO) has also stressed the importance of safety in service to patients: "*Safety is a fundamental principle of patient care and a critical component of quality management*"(WHO, 2009). Increasing the ability of frontline nurses to recognize and respond to deterioration patient conditions through nursing education and modification of clinical processes is needed (Chua et al., 2013).

Based on the Joint Committee on International Credit (2012) identified that nurses also have the responsibility in the early detection of deterioration patients according to COP 3.1 standards regarding the early detection of deterioration patient conditions. Each hospital has its own policies regarding monitoring and documentation standards that vary according to the facilities and resources they have. Based on information from several nurses that reporting of changes in conditions has not been carried out maximally. There are still nurses who carry out the examination of vital signs as a formality of documentation only (Manurung, 2018; Saputro & Zendrato, 2018). Clinical judgment and interpretation of vital signs are important skills for nurses to make good clinical decisions, so as to be able to identify situations that are at risk in changing patient conditions (Stafseth, Grønbeck, Lien, Randen, & Lerdal, 2016)

The hospital develops a policy to improve effective communication in reporting critical or emergency conditions. Effective, timely, accurate, complete, clear, and easily understood communication will reduce errors, and result in increased patient safety (Manoj & Baker, 2007). The Early Warning System (EWS) is a standard of emergency monitoring indicators through physiological depiction of vital signs and central nervous system function (Stafseth et al., 2016), in several rooms as a pilot using Royal College documentation. The implementation of its effectiveness has widely known worldwide, in general there was a positive trend towards clinical outcomes after the introduction of an EWS system, its simplicity being an advantage (Alam et al., 2014). The target score for implementation of the EWS score is 100% with the main performance indicator being the EWS Score completed correctly and at the appropriate frequency, however inconsistencies are often found in documenting the EWS score (Saputro & Zendrato, 2018).

Hospitals especially Nurses need EWS as emergency monitoring to help them recognize patients at risk of deterioration in order to give the right intervention at the right time.Therefore, the purpose of the study was to explore how nurses' experiences and perceptions about emergency monitoring.

METHODS

This research design was a qualitative exploratory method. The methods were describe by

Brink and Wood in 2001 as the umbrella term to describe all the descriptive qualitative study (Wood & Ross-Kerr, 2010). The sampling technique of this study was a purposive sampling technique The participants were team leader nurses who experience in using the EWS, with various backgrounds of competency or education that selected from 6 different ward as pilot project to implemented the EWS monitoring. The research was conducted in one of regional hospitals in East Java.

Data collection tools used in-depth interviews, field note sheets, notebooks, stationery and tape recorders. Researcher recorded the interview using video and tape recording. The researcher made a field note that contains a description of the date, time, and basic information about the arrangement of the place, the position of the participant with the researcher at the interview, a description of the participant at the interview, the atmosphere of the interview place, social interactions and activities that took place during the interview (Creswell & Poth, 2016). The information was based on the implementation of the emergency monitoring called EWS in the inpatient units. The research was conducted in December 2018. The interview records were transcript into verbatim and had member check to clarify the verbatim. Later, the verbatim were analyzed by the authors, and had consensus in themes and sub-themes. The validity and reliability of this study were including: credibility, dependability, confirmability, transferability (Afiyanti & Rachmawati, 2019). The trustworthiness in qualitative analysis to ensure the credibility of the findings, the research dependability of the logical process of data analysis, the findings interpretation are clearly derivied from the data, and the generalizability of inquiry (Nowell, Norris, White, & Moules, 2017). The triangulation and member check techniques were used for the validity of the data by using more than one data collection technique that includes interviews, observation, and documentation (Polit & Beck, 2010). The data analyzed using thematic analysis by Flick (Flick, 2018).

Ethical Consideration

To protect the rights of participants, the ethical clearance obtained from the hospital of which the study was conducted No. 15/KEPK/XII/2018. An anonymity, and coding systems are used in the analysis of research data to respect the rights and privacy of respondents. During the study, respondents were not forced to undergo research and did not have any impact on the respondents.

RESULT

All participants were female nurses, average age 35.3 y.o and average working experience 11.3 years the participant characteristic showed in table 1.

Table 1. Participants' Characteristics

Participants	Age (years)	Education level	Ward	Working Experience (years)
P1	39	BSN	Medical	17
P2	36	BSN	Surgical	11
P3	29	BSN	Medical	4
P4	32	Diploma	Infectious disease	9
P5	36	Diploma	Medical	14
P6	40	BSN	Surgical and trauma	13

The findings were 3 themes including: (1) personal themes consisted of 6 sub-themes: nurse understanding, responsibility, caring, workload, motivation, and nurse characteristics; (2) Environmental themes consisted of 5 sub-themes: Standard Operating Procedures (SOPs), algorithms, socialization, training, and supervision; and (3) patient themes consisted of 3 sub-themes: patient response, disease process, and patient safety.

Personal

These themes have 6 sub-themes: nurse understanding, responsibility, caring, workload, motivation, and nurse characteristics. This is evidenced by the following quote:

Nurse understanding
"Even it has one package, what should be observed ... it must indeed have to do like that

(guideline) so we can detect the decline in consciousness quickly, right?" (P1). "So, we have to understand the meaning is that Early Warning System Score (EWSS) does not mean that all type of patient needs to be observed only per 1 hour, it's not according to the guideline. In addition, someone has to remind the staff nurse to do the observation. Well, it did happen for the first time we applied this EWSS, it takes time for staff nurse to make this as a routines." (P1)

"Observation is important for the nurse, so that the patient did not missed (the emergency conditions)." (P2)

"Observation is very important for certain patient conditions, it has to be observed more closely. Monitoring using EWS means we need continuous monitoring." (P3)

"Actually, it's the additional items for accreditation, actually before we don't have this kind of observation, we might just use big observations, but since for accreditation, special items need to be added to reduce mortality rate using early detection. So, the patient not suddenly died." (P6)

Responsibility

"Um … yes, observation is an independent task, our responsibility as a nurses is a work of morality too, yes, it is beneficial … because the hospital is accredited, the emergency monitoring using EWSS must be compulsory." (P2)

"Because the EWSS emergency monitoring become hospital policy." (P3)

"Because it must be implemented that the EWSS is important for patient safety. If it's just as routine as my job every day, it's useless, for example the patient SPO2 was 88, but because of routine and nurses did not implemented properly, the nurse just wrote the report by the number 98 and it was mis observing, and the patient died. "(P5)

Caring

"If in theory they all know. But it is possible if the nurse care." (P5)

"... the difficulty is the caring culture its rather difficult, ..." (P6)

Workload

"Maybe at the beginning this was additional work, but for a long time it was normal." (P2)

"yes, for the first time it is consider as additional, the nurses first response also unpleasant, murmur in hand over or nurse round. It was already not comfortable," (P5)

Motivation

"The motivation is that you can help the patient, if the patient has improved, we can recommend the doctor in charge for the patient discharge." (P3)

Nurse's Characteristics

"There are different characters for example if we reminded nurse … 'okay, fine, for the reminder'. But there was nurse who has been reminded many times but it's still like that (did not change)." (P4)

Environment

The environment when nurses worked greatly affected the implementation of emergency monitoring such as SOPs and algorithms owned by a hospital as in the following quote:

Standard Operating Procedure (SOP)

"Code blue is not for (High Dependency Unit) HCU or (Intensive Care Unit) ICU patients, so the code blue is intended for patients in the class who have sudden apnea or watchdogs or visitors, that's the SOP rules." (P5)

Algorithm

"Yes, we have nurses, if there is anything happened nurses has to reported to the team leader, there is an EWS, there are observations from 8 to 12 hours, the clinical response is to be continue monitoring EWS routinely. If the green "H" grading is a total of 1-4 EWS, the monitoring frequency is 4 to 6 hours and it is reported to the responsible nurse, the primary

nurse or guardian on duty on that day will determine whether it needs to be reported to the doctor, later if "K" or yellow, yellow grading the total score is 5-6 that the frequency of observation is 1 to 2 hours, nurses must report to the Doctor in charge (DPJP), then the DPJP will determine the therapy or clinical action that can be done in accordance with the case the clinical condition of the patient is later determined by the need for ICCU, but the condition must be stabilized first for the transport." (P2)

Environmental support such as adequate socialization, training, supervision, and infrastructure is needed in carrying out emergency monitoring as in the following phrase:

Socialization and Training
"We also held a special training to be collected. All were given this explanation so that everyone knew we were given training to fill it in. So, there was a team coming to the room to have socializing, this was the first thing." (P2)"So before (National Standard of Hospital Accreditation) SNARS was introduced, we introduced it at this time, the (Nursing care service) PAP group was for accreditation because it was the one who had the element for the EWS, so it was trialed first, then we continued to do the training, training for the entire ward, from the new nurse who just entered until the seniors nurse knows EWS."(P1)
"Hopefully in the future there will be a training on (emotional Spiritual Quotient) ESQ maybe ma'am, if ESQ is the first to open his heart, if his heart is open, oh come on I really need to be like this so automatically they will increase their concern (to do EWS)." (P5)

Supervision
"At least I once a week, not often I ask about the EWS. I supervised the EWS report. For example, how do you report the EWS as red? Where this conclusion came from? It's really

yellow? The patient is 456. I also asking about the criteria, for example the pulse is going up with grading 3, We checked the pulsation, did you check the ECG graph yet? Did you check the (Blood Glucose) GDA yet? How is the Glasgow Coma Scale (GCS)?" (P5)

Patient
Patients were the main indicator in the implementation of the monitoring function, so it needs to be considered about the patient's response, disease process, and patient safety as in the following quote:

Patient Response
"Emergency monitoring using EWS help us to immediate understanding patient response in emergency situation. For example, if the EWS increase we need to monitor closely, we take another monitoring methods such as Blood glucose, we immediately perform oxygenation if the SpO2 decrease or if respiratory rate increase or decrease."

Disease Process
"Actually, if COPD is indeed short of breath, at least it's usually RR 40, or if the RR is 32, we have to evaluate the sound of the breath. Then sometimes the deterioration of patients with COPD is usually the patient suddenly delirium, short of breath, hypoxia continues with bad blood gas analysis (BGA) usually if this is happened for patient with bad prognosis. Sometimes there is a patient who is suddenly decrease the condition, and become apnea." (P4)

Patient safety
"If it's all about patient safety, everyone cares, so I mean that to all patient safety, at least we also confirm ..." (P4)
"Patient safety? Yes, it is, we are more aware to all patient that monitored by EWSS, more quickly to found out, so the treatment to the patients is faster. So, it is faster if the EWSS is red, we immediately contact the DPJP, and the

vital sign reported directly to DPJP. More governance is better than those that don't get caught." (P5)

"Because it must be applied that this important that EWSS is patient safety ..." (P5)

DISCUSSION

The results of this study found that the implementation of emergency monitoring was influenced by nurses' personal, the environment of wards that the nurse worked in units and the patient conditions. The personal themes underline the nurse understanding, responsibility, caring and experience. While the environment themes were about the algorithms, the hospital support and preparedness in conducting this new monitoring strategy. The various conditions of patients also effect the perceptions of using the emergency monitoring.

Identifying the clinical situation is related with nurse's understanding, level of education, and experience. Pantazopoulos et al (2012) study identified that there is a relationship between the demographics of nurses (nurse education level) and the correctness of identifying clinical situations to activate MET (Medical Emergency Team). Nurses with 4 years of experience were more accurate in identifying signs of clinical deterioration in patients (Pantazopoulos et al., 2012). The experience of nurses is important in carrying out MET activation when they feel signs of clinical deterioration in patients without hesitation, besides that leadership and supporting factors are also needed when making decisions (Brady et al., 2013)Nurses' understanding of emergency monitoring is still different. Most of them stated that observation is very important for nurses' independent assignments, with emergency monitoring using the Early Warning System instrument considered to help and facilitate nurses' tasks. Chua et al (2013) stated that the role of nurses in treating patients who experience deterioration is recognizing signs of deterioration, responding to signs of deterioration, being responsible, developing education, and modifying clinical processes.

Patients must be at rest for routine observation. Nurses must wait 20 minutes after any activity before measuring vital signs. The nurse analyzes the results of vital signs to interpret significance and make decisions about interventions. Interpretation of vital signs cannot be delegated, so nurses who carry out observations or monitoring are tasked with reporting the results of these interpretations. Based on the Decree of the Minister of Health of the Republic of Indonesia Number HK. 01.07 / Menkes / 17/2018 explained about the description of duties, responsibilities and authority of nurses (Diploma III Nursing) as many as 29 points and expert nurses (Professional Nurses) as many as 35 points relating to the implementation of patient monitoring. But there are still those who consider that the task of monitoring is only as rules and policies that must be carried out. Some nurses stated that the Early Warning System was only a formality. This is individualized due to work motivation and the characteristics of the nurse itself.

The findings from this study showed that the caring behavior of nurses was still difficult to grow. This is in line with the results of research by Firmansyah, et. al (2019) who stated that 52.1% nurse caring behavior in the sufficient category, and 44.4% good caring behavior (Firmansyah, Noprianty, & Karana, 2019), caring behavior is related to the workload of nurses, patients assess (33.3%) experience sufficient caring behavior (Choiriyah , Priyanti, & Syarifah, 2017). Screening as a basis for nursing practice to meet client needs is very important to be implemented, so as to improve the quality of services provided.

The findings from this study indicated that environmental support such as ocialization, training, supervision, and adequate infrastructure were needed to activate the EWS. Smith et al (2008) in Leonard & Kyriacos (2015) stated that 'the Early Warning System is a Track & Triggers that aims to direct or guide patient care' (Leonard & Kyriacos, 2015; Smith et al., 2014). Algorithms for actions formulated to accompany the MEWS (Modified Early Warning System) assessment tool provide consistent plans for nursing orders and

promote rapid communication between nurses and other care providers. Population or hospital specific algorithms can be used together with MEWS scores to increase the frequency and consistency in assessing, recording, and analyzing vital signs data based on the patient's condition. The algorithm can direct the nurse to call a doctor for immediate assistance. Some participants stated that the code blue algorithm was still not optimal, the MET team and trolley emergency were still limited.

According the participant, the Early Warning System implementation is simple, only need to add pain indicators. EWS remains a simple and easy-to-use bedside tool, its simplicity is an advantage (Alam et al., 2014). MEWS is a very powerful instrument for empowering nurses and engaging in the diagnosis and detection of deterioration patients, such as providing a framework for communicating the severity of the disorder among healthcare workers (Keene et al., 2017). However, a number of strategies are needed to improve the quality of vital sign recording, including developing staff education, increasing the number of competent personnel, improving administration and infrastructure as vital charts.

Some participants stated that socialization, training, and supervision had an important role in the implementation of emergency monitoring. Pantazopoulos et al (2012) stated that nurses who have attended resuscitation techniques are more able to make decisions in the treatment of clinical deterioration correctly (Pantazopoulos et al., 2012). Leonard & Kyriacos (2015) stated that to limit incidences of 'failure to save', validated Track & Triggers such as MEWS, coupled with MET or other rapid response systems are recommended to provide uniform guidelines for national health care professionals and students for early identification of deterioration the patient and the appropriate response (Leonard & Kyriacos, 2015). The development of ongoing professional programs must include recognition of early signs of clinical deterioration and not only cardio-pulmonary resuscitation (CPR) skills. In the initial six-month

analysis, the EWS contributed to a decrease in code blue RRT (Rapid Response Time) transfer rates and inpatient mortality rates. However, the components of the EWS system significantly influence the workflow and nursing load (Massey, Chaboyer, & Anderson, 2017). Overall felt that this burden outweighed the benefits of the EWS and the decision was made to switch to a minimized EWS system with less impact on the nursing workflow.

The results of the study stated that the patient's response and disease process were related to the implementation of monitoring as well as the expected results for the patient. So that also affects the patient's safety. Pantazopoulos et al (2012) stated the need for nurses to know physiological parameters in responding to and recognizing signs of clinical deterioration (Pantazopoulos et al., 2012). Respiratory rate and GCS are the least describing the evaluation of vital signs. There are participants who stated that certain diseases cannot be assessed using an early warning system, this is related to the condition and the prognosis of some diseases can be rapid. Based on data from a study conducted by Alam (2014), unsuitable results may be influenced by the diversity of the population studied. Patient characteristics (eg age, respiration disease) and drug use (beta blockers) may bias EWS (Alam et al., 2014). The successful implementation of EWS in hospitals must go hand in hand with improvements in many sectors, including staff education, namely through socialization, training, supervision and adequate infrastructure which in turn will lead to a change in mindset for better and improved health care.

CONCLUSION

The results showed that the implementation of emergency monitoring in the inpatients units was still not optimal. The implementation of the Early Warning System is expected to be modified, carried out on-going with improvements in many sectors, including staff education through socialization, training, supervision and adequate infrastructure which in turn will lead to a change in mindset for better and improved health care.

LIMITATION AND RECOMMENDATION

The participants of the study were selected based on division of education and training hospital recommendation that representative of each ward in the hospital. The generalization of the finding still to be tested using other research methods for example quantitative research and bigger sample participants.

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