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STRENGTHENING THE ROLE OF HEAD NURSES IN MANAGING QUALITY IMPROVEMENT (QI) PROGRAMS FOR PRESSURE INJURY PREVENTION IN HOSPITALS

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ABSTRACT
Nursing managers face challenges in implementing Quality Improvement (QI) programs for pressure injury prevention in hospitals. Objectives: To identify problems faced by nurse managers in implementing QI programs and to develop problem-solving solutions. Mini-project on improving the quality of care room management and analysis of results and implementation gaps based on literature review. Data collection through interviews, observations, and questionnaires in the internal medicine inpatient ward. Data were analyzed using the 5 Whys technique and fishbone diagram. Problem-solving solutions used the FOCUS PDSA approach. It was found that the direction and control functions of the quality improvement program in efforts to prevent pressure injuries were not optimal. The implementation of solutions in the form of improving pressure injury data management, staff re-education, making mini posters, and evaluating the impact of pressure injuries on costs. The evaluation results showed that all at-risk patients had received preventive interventions and no new cases of pressure injuries were found. Strengthening the direction function of the head of the room through staff re-education, poster installation, and effective monitoring can improve the implementation of the QI program in preventing pressure injuries in hospitals.

Keywords: pressure injuries; role of nursing managers; quality improvement

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INTRODUCTION

Getting safe, quality and affordable health services is the right of every person. Hospitals as health service providers have a responsibility to fulfill this right through the Quality Improvement (QI) program. QI is defined as a systematic and continuous approach to solving problems, improving services, and providing better outcomes for patients (Backhouse & Ogunlayi, 2020) . QI requires infrastructure (a systematic and disciplined process) to eliminate unnecessary processes (waste), as well as organizational patience in empowering staff to achieve positive change and eliminate errors, so that they can provide the best experience for patients (Drew & Pandit, 2020) .

Leadership is the most important aspect in QI. A leader can encourage and motivate his/her staff members to achieve the main goal of the organization, which is to provide quality services and work to the highest standards (Markazi Moghaddam et al., 2019). The ward head is the nursing leader at the forefront of QI implementation. As a nurse leader, the ward head must guide and coach staff, help them to communicate gaps in practice and remove barriers that may hinder the involvement of nursing staff in QI (Tschannen et al., 2021) .

Implementation of QI programs can be done using several methods, one of which is the Plan-Do-Study-Act (PDSA) method. The PDSA step begins with a plan , namely identifying the objectives of the QI program to be implemented. The next step is do , namely implementing the program on a small scale to achieve the goals that have been set. The third step is study, which is comparing data before with data obtained after program implementation. The last step is act , combining data from the previous 3 stages into a better execution plan. These four steps must be considered and repeated for a better process (Barr & Brannan, 2024)

The success of the QI program is measured by monitoring the achievement of quality indicators. In nursing, quality indicators are known as Nursing Sensitive Indicators (NSI). In the last 20 years (19977-2017), there have been several indicators that are often used, one of which is the incidence of pressure injuries (Oner et al., 2021). Pressure injuries are a patient safety issue that is sometimes overlooked, even though this condition is a painful condition for patients and can also be a significant financial burden for hospitals (Gupta et al., 2020).

Jakarta Central General Hospital is a national referral hospital that has been accredited by the Joint Commission International . In one of the medical care rooms, there was an increase in the incidence of pressure injuries in the first quarter of 2024. Unfortunately, this condition has not received the attention of nursing managers, nursing supervisors, room heads, clinical care managers. and nursing staff. This paper aims to analyze the application of the 5 Whys method , fishmonger diagram, and PDSA cycle to optimize management functions in the management of quality improvement (QI) programs for pressure injury prevention efforts at the Central Jakarta General Hospital.

METHOD

A mini project was conducted at a central general hospital in Jakarta on April 22 to May 24, 2024. This mini project consists of a case report of the application of the 5 Whys method , fishbone diagram and PDSA cycle to optimize management functions in managing the quality improvement program for pressure injury prevention efforts. Data were collected from 1 nursing supervisor, 2 ward heads and 1 clinical care manager using interview and questionnaire methods based on the Planning-Organizing-Staffing-Actuating-Controlling (POSAC) management function approach. Data were analyzed using the 5Whys technique and fishbone diagram . Problem solving solutions using the FOCUS PDSA approach (Find, Organize, Clarify, Understand, Select, Plan, Do Study, Act).

RESULT

The results of the mini project showed that the planning, organizing, directing and controlling functions of the quality improvement program in efforts to prevent pressure injuries were not optimal, which led to an increase in the incidence of pressure injuries. The main condition that caused this was the manual pressure injury indicator data management process that had not been integrated with the hospital information system, causing low data validity. At the head of the room level, there was an error in calculating the incidence rate so that the results achieved were not in accordance with the actual results (according to target). Then the preparation of the follow-up plan at the head of the room level had not focused on preventing recurrence but on the follow-up of patient pressure injury care. Meanwhile, at the nursing supervisor and nursing manager levels, data management was carried out cumulatively across all units and hospitals, so that the denominator became very large, causing the achievement to be in accordance with the target. The report on the achievement of the incidence rate of pressure injuries had not been analyzed and feedback was given on each report from the treatment room, either by the nursing supervisor of the inpatient installation or by the hospital nursing

service manager. This condition caused an increase in cases of pressure injuries in the medical ward not to be identified as a problem that needed to be followed up.

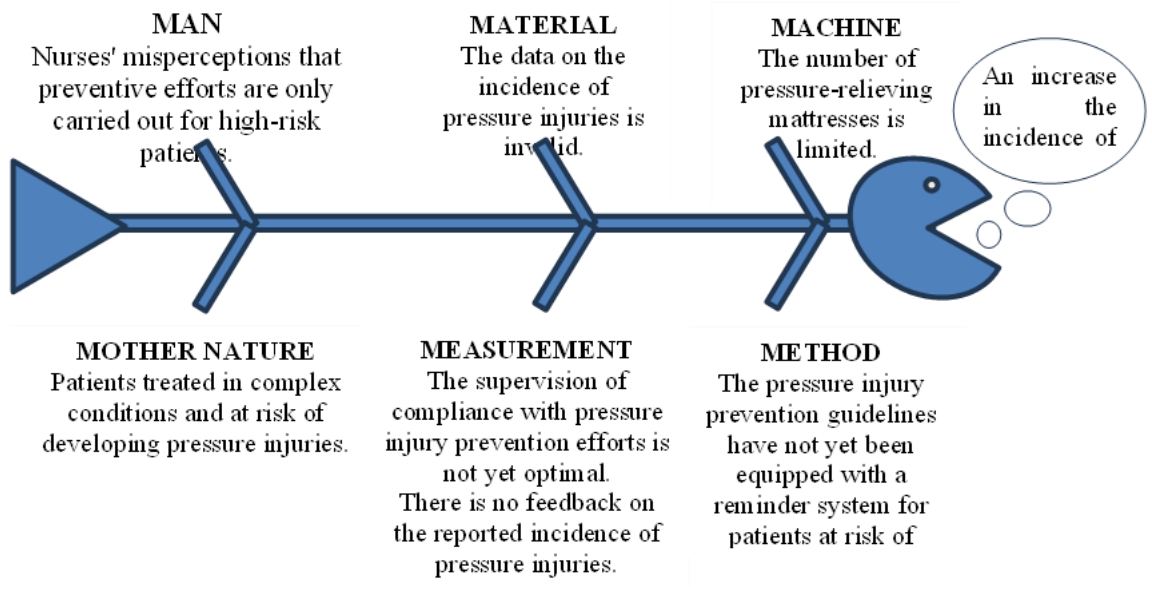

Figure 1. Fishbone Diagram

The 5 Whys and FOCUS PDSA methods were applied to solve the problem. The stages of finding the problem (Find) were carried out through the interview process, observation and questionnaires and analyzed using the Fishbone diagram (Figure 1). The second stage was to form a team (Organize) consisting of the head of the room, clinical care manager and primary nurse in the medical care room. The next stage, Clarify, was carried out by collecting and validating data on pressure injury incidents which showed that the achievement in the first quarter was 2.57 per thousand from the hospital target of less than 1.5 per thousand (Table 1)

Table 1.
Number of Pressure Injuries from January to March 2024 in the Medical Care Ward

Month	Number of Incidents	Number of Days of Treatment	Incident Rate (Permil)	Target (Permil)
January	3	644	4.66	<1.5
February	0	587	0	<1.5
March	2	718	2.78	<1.5
	5	1949	2.57	

The fourth stage is Understanding, which is the process of understanding and finding the root of the problem. This stage is carried out using the 5 Whys technique to the head of the room, clinical care manager and primary nurse, and the results are obtained as shown in Table 2.

Table 2.
Whys Analysis

Why 1: Why do patients experience pressure injuries?	Why 2: Why are pressure injury prevention efforts not being undertaken?	Why 3: a. Why are there misperceptions regarding pressure injury prevention? b. Why are patients at risk for not using mattresses to reduce pressure?	Whay 4: Why is supervision not optimal?	Why 5: Why is information about at-risk patients not known to the CCM/Head of Room?
Patients at risk of pressure injury but no pressure injury prevention efforts were undertaken	Because there is an inaccurate perception that only high-risk patients are treated for pressure injury prevention, while low- or moderate-risk patients are not considered a nursing problem.	a. Due to lack of supervision of the process of preparing care plans for patients at risk of pressure injuries? b. The number of available mattresses is insufficient to meet the increasing number of cases of patients at risk	Information about patients at risk of pressure injuries is not reported or is unknown to the CCM/Head of Rom	Only high-risk patients who have experienced pressure injuries have been reported, while for low-moderate risk patients there are no specific markers for patients at risk of pressure injuries and this has not been reported.

Through the 5 Whys analysis , several causes of the increasing number of pressure injury cases were found, namely the misperception of nursing staff who only carry out pressure injury prevention management on high-risk patients, limited mattress facilities to reduce pressure on the patient's body, suboptimal supervision of the head of the room on the pressure injury prevention program, and the absence of markers for patients at risk of pressure injury. Based on this, the team continued the next stage, namely selecting (Select) corrective actions taken to overcome the problem, namely increasing awareness of all nurses in carrying out pressure injury prevention efforts according to standards on all patients at risk.

The Plan stage is carried out by preparing an activity plan that will be carried out as a corrective action including re-education related to the management of pressure injury incidence data, making mini posters that will be installed on the bed head unit of all at-risk patients, preparing a form for supervision of nurse compliance in carrying out pressure injury prevention efforts and calculating the impact of pressure injuries on patient care costs. The activity is then implemented (Do) in the medical care room which begins with the socialization of the program by the team to all nurses and a statement of commitment in the form of reading jargon/slogans which is carried out at the beginning of each shift. Re-education on the management of pressure injury incidence data is carried out to the head of the room and nursing supervisor by the assistant manager of nursing services. The installation of mini posters on the patient's bed head unit is carried out after the design is mutually agreed upon which contains information about the left-right tilt mobilization program and its implementation time (Figure 2). Supervision is carried out by the head of the room using a supervision form (Table 3 which includes patient identity, compliance with the installation of mini posters, implementation of the SSKIN Bundle, preparation of a care plan for patients at risk of pressure injuries and education of patients and families regarding pressure injury prevention.

Implementation was carried out for 2 weeks and an evaluation of achievements (Study) was carried out. During the implementation process, there were 10 at-risk patients who were observed. 4 patients experienced pressure injuries from home, 2 patients experienced pressure injuries at the hospital before the program was implemented and 4 new patients who were admitted when the program was implemented did not experience pressure injuries. 100% of patients were given pressure injury prevention measures during the program implementation process, but 2 patients who were admitted before the program implementation did not receive optimal prevention efforts for pressure injuries. From the results of the analysis of additional costs due to pressure injury care, it was found that the average additional cost of care for patients with stage II pressure injuries was Rp. 280,000 with an average length of care: 15.5 days (excl. patients who were still being treated). Additional costs for care for patients with unstageable pressure injuries were Rp. 1,338,000 with 17 days of care. Additional costs for care for patients with grade 2 pressure injuries were Rp. 2,515,000 with 42 days of care. So it can be concluded that the increase in patient care costs increases along with the increasing length of care for patients with pressure injuries.

The final stage in this mini project is Act , which is the preparation of a follow-up plan based on the implementation results. The recommendation given is that the data validation process and submission of feedback on quality indicator reports by nursing supervisors are carried out periodically according to the reporting period sent by the head of the room. Other recommendations are the determination of a mini poster marking patients at risk of pressure injuries as a hospital document and the preparation of a draft work instruction for supervision of compliance with pressure injury prevention efforts that needs to be determined by the Director of the Central Jakarta General Hospital. Both documents then need to be socialized by the Nursing Manager to all nurses in the inpatient room and implemented to improve the quality of pressure injury prevention efforts for inpatients.

DISCUSSION

Quality Improvement Program has been routinely carried out at the Central General Hospital of Jakarta, but not all programs have been implemented sustainably according to stakeholder expectations, one of which is related to the management of pressure injury prevention programs in medical inpatient rooms. Opportunities for improvement in the management of the QI program for pressure injury prevention efforts were found after observations and interviews with the head of the room and nurses in the service room. In the concept of lean management, this process is called a gemba walk, which is a technique used to identify opportunities for improvement by observing and interacting directly with the team carrying out the service process (Dalton, 2018) . With a gemba walk , managers can understand the processes that occur in the service and understand the problems faced by staff (Aij & Teunissen, 2017) .

The 5 Whys method is used to identify the root of the problem because it is easy to do and does not require special forms or tools (Aloğlu & Mert, 2023) . This method is recommended by the World Health Organization, National Health System, Joint Commission International and quality and safety organizations around the world (Card, 2017). Through this method, several problems were found in the management of QI programs for pressure injury prevention including nurses' misperceptions about the implementation of pressure injury prevention programs; the unavailability of markers in at-risk patients; limited mattresses to reduce pressure and lack of supervision of the implementation of pressure injury prevention programs. This condition is in accordance with the results of a recent mix method systematic review which found that challenges in pressure injury prevention include nurse leadership in managing pressure injury prevention programs, staff competence, limited facilities, patient

and family involvement, and the behavior of health workers who do not prioritize pressure injury prevention programs compared to other clinical actions (Wan et al., 2023) .

Problem solving in the QI program for pressure injury prevention efforts is carried out using the FOCUS PDSA method. FOCUS PDSA is a framework for finding and objectively evaluating opportunities for improvement by organizing processes and analyzing them (Abuzied et al., 2023) . This method can also improve team competence in identifying and solving problems and help develop scientific thinking in solving problems that occur (Huang et al., 2023). Corrective actions taken to improve the quality of pressure injury prevention efforts begin with re-education on the management of pressure injury prevention programs for the head of the room and nursing staff. Staff competence in carrying out the QI program is one of the supporting factors in the implementation of the pressure injury prevention program (Wan et al., 2023). So the process of improving staff competence through re-education is important in the QI program for pressure injury prevention efforts.

The second action taken was the installation of mini posters as visual markers of patients at risk of pressure injuries in the patient care area. Visual markers were installed with the aim of reminding nursing staff, patients and families regarding the risk of patient pressure injuries and programs to reduce the risk of pressure injuries. The installation of these visual markers helps nurses identify patients at risk of pressure injuries and implement prevention programs during the mini project. The use of visual cues is considered effective in several patient safety programs such as fall prevention, accurate patient handovers, medication safety and pressure injury prevention (Burns et al., 2022; Cuttler et al., 2017; Wang & Or, 2020; Yap et al., 2022).

The third action is the leadership role in pressure injury prevention through structured supervision by the head of the room on the implementation of the pressure injury prevention program. The parameters supervised include compliance with the installation of visual markers, filling out the SSKIN bundle, preparing a care plan for patients at risk of pressure injuries and the process of involving patients and families through education. A qualitative study showed that the head of the room played a major role in supervising and monitoring all pressure injury prevention activities which had a positive impact on influencing nurses' attention to pressure injury prevention (Li et al., 2022).

The financial impact was also measured in this mini project by calculating the cost of pressure injury care including the use of mattresses to reduce pressure, and wound care with modern dressings . From this mini project, it was found that the longer the treatment days for patients with pressure injuries, the higher the cost of patient care. This condition is in accordance with several studies that also show a significant increase in treatment costs due to pressure injury incidents in hospitals (Gupta et al., 2020; Nghiem et al., 2022; Padula & Pronovost, 2018; Singh et al., 2023; Yap et al., 2022) . The cost impact of pressure injury incidents includes direct and indirect costs. Direct costs are the cost of treating pressure injuries. While indirect costs are the time and resources used to investigate and report pressure injury incidents in hospitals (Singh et al., 2023).

CONCLUSION

The implementation of the solutions carried out, namely improving the management of pressure injury data, re-educating staff regarding pressure injury prevention programs, making mini posters, and evaluating the impact of pressure injuries on costs, has been effective in increasing compliance with pressure injury prevention efforts. The evaluation results showed that all patients at risk had received preventive interventions and no new cases of pressure

injuries were found. This shows that strengthening the direction function of the head of the room through staff re-education, installing posters, and monitoring can improve the implementation of the Quality Improvement (QI) program in efforts to prevent pressure injuries in hospitals.

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