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Case Study of Implementation of Adverse Event Prevention Program: Decubitus Ulcer in Bedrest Patient with Stroke in the ICU Room with S.S.K.I.N Approach

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HIGHLIGHTS

- Applying the S.S.K.I.N approach to ulcus decubitus prevention can be applied in the ICU Room.
- Applying S.S.K.I.N. in ulcus decubitus prevention in the ICU room increases nurses' workload.
- Applying S.S.K.I.N in the ICU room needs to involve the family of the patients.

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A B S T R A C T / A B S T R A K

Patient safety is one of the aspects of providing excellent service for patients in hospitals, especially in the ICU. One method of managing patient safety is to prevent pressure ulcers in the ICU. The aim of this study is to explain the management of pressure ulcer prevention in the ICU for bedridden stroke patients using an intervention approach with form chart media. The research method used in this study is a case study design that includes assessment processes, data analysis, diagnostic rehabilitation, intervention, implementation, and evaluation. We collected data through observation, interviews, and physical examinations. We carried out the intervention in two shifts. We measured the risk of pressure ulcers using the Braden scale, provided health education to the family, and ensured the nurse correctly filled out the form. The obstacle to increasing the number of nurses is the workload and the feeling that human resources are still insufficient. There are no signs of pressure sores on the patient's back. In the implementation of the pressure ulcer prevention program using the skin approach, family involvement is necessary to ensure the program continues without adding to the workload of nurses in the ICU. Conclusion: Modifications to the formchart and family involvement in the program are necessary for the implementation of the pressure ulcer prevention program using formchart media in the ICU.

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1. INTRODUCTION

Adverse Events are incidents that can cause injury to patients. Adverse events is crucial in enforcing patient safety programs where hospitals realize safer patient care, including risk assessment, identification, and management (Kemenkes RI, 2011). Patient safety is a fundamental principle of a health service that views safety as the right of every patient to get health services. One of the factors that cause a decrease in patient safety is the high workload of nurses at risk of improper nursing care for patients (Rizki Amelia et al., 2022). According to Martyastuti, Isrofah, & Janah (2019), one of the hospital's rooms with a significant workload risk is the ICU (Intensive Care Unit) room. The Indonesian Critical/Intensive Nurses Association defines critical nursing services as a particular unit in nursing services dealing with human responses when addressing actual and potentially life-threatening problems (HPERCCI, 2023). One of the critical things highlighted by ICU nurses is how to prevent patients from suffering pressure wounds because the ICU room is where patients are required to take bed rest to get optimal care (Sari et al., 2022). Therefore, patient safety aspects, especially in preventing pressure sores in the ICU room, must be enforced by ICU nurses.

According to the National Pressure Ulcer Advisory Panel (2019), pressure sores are injuries to skin tissue or soft tissues that line protruding bones or are related to medical devices / other devices. These injuries occur because the pressure occurs on an ongoing basis and can also occur due to friction on the skin. The incidence of pressure sores in patients in the ICU Room is the responsibility of nurses in providing nursing care that is considered less holistic to patients and is known as a result of the use of less than optimal patient safety guidelines (Yustina, Setiawan, & Putra, 2021). Thus, nurses must understand and consistently try to prevent pressure sores in the ICU, especially in patients with high dependence or total bed rest.

Pressure sores are a serious world health problem and significantly increase patient morbidity and mortality (National et al., 2019). According to the global based on Global Decubitus Expense Report ulcer from 1990 to 2019 from Zhang et al. (2021), decubitus ulcers counted ± 1,541,945 incident cases in 1990 and ± 3,170,796 new cases in 2019, with an average age of incidents of ± 42 years (37.8 to 46.2 years) in 2019 per 100,000 population. In Indonesia, the incidence of pressure sores reaches 33.3% and is relatively high compared to the incidence of pressure sores in Southeast Asia which only reaches 2.1-31.3% (Kemenkes RI, 2023). This shows that efforts to prevent pressure wounds, especially in Indonesia, have not reached optimal. Therefore, ICU nurses must understand and be diligent in caring for bedrest patients with a high risk of pressure injury under the risk assessment instruments used in the ICU.

Based on the results of interviews with the head of the room and the team leader, the ICU room in one of the hospital in Bondowoso still needs a program to prevent pressure sores structurally, such as risk assessment instruments and scheduled prevention program stages. In addition, the recording of pressure sores in the ICU room of in one of the hospital in Bondowoso used a notebook containing data on names, dates of admission to the ICU room, diagnoses of admission to the ICU room, and the date the pressure sores started to appear. Based on this, researchers want to carry out a decubitus ulcer prevention program in the ICU room, from screening to management and monitoring of skin conditions.

2. MATERIALS AND METHOD

2.1 Research design

Researchers used a descriptive research design with a case study approach in one patient with a high risk of pressure sores.

2.2. Population and research sample

Woman Aged 94 years, with a stroke diagnosis of 6 years and a history of seizures, was chosen by the researcher as a managed case which became the object of treatment. The researcher chose five nurses involved in S.S.K.I.N's actions as a source of qualitative data regarding S.S.K.I.N.'s experience of pressure sore prevention using Formchart media.

2.3. Research materials and tools

The researcher was equipped with media documentation of pressure sore prevention program actions in the form of alternating A3 size flowchart sheets consisting of identity tables, risk assessment tables (Braden scale by Braden & Bergstrom, (1988)), family education checklist tables, risk control factor tables, S.S.K.I.N prevention intervention tables by Whitlock (2013) and with reference box which form the basis of the table of components in the media. Media yang peneliti gunakan tertera dalam link https://bit.ly/UlcusdecubManagementSheet.

2.4. Stages of collection/research

The researcher interviewed the head of the room, the team leader, and the shift leader regarding previous efforts to prevent pressure sores in the ICU room. Then the researcher compiled the media form chart using the S.S.K.I.N approach and consulted with the head of the room. The next researcher carried out a socialization program for room nurses on duty and invited nurses to implement a prevention program for two days. Researchers then interviewed five nurses and saw the treatment results on patients directly.

2.5. Data analysis

Qualitative descriptive analysis was used in this study to capture the overall results of the research. For two days, the researcher prepared questions regarding nurses' experiences during preventive actions. Then the researcher presents by highlighting some of the things nurses learned nurses during the implementation of pressure ulcer prevention programs with S.S.K.I.N bundle.

3. RESULTS AND DISCUSSION

3.1 Results

The program starts on April 30, 2023, at 14.00 WIB and continues until May 1, 2023, at 21.00 WIB. Together with the associate nurse in the ICU room, researchers changed positions and gave olive oil along with other aspects of SSKIN. Then, the researcher reports to the shift leader that the action has been completed, and the shift leader fills out the form chart at the appropriate hour. This is done according to the chart form instructions, one of which is the position change instructions every 2 hours.

In carrying out position change actions, researchers ensure that room nurses participate in carrying out actions at most stages of the SOP (patient mobilization). Olive oil is used as a skin moisturizer for managed clients because the phenolic compounds in olive oil have anti-inflammatory, antimicrobial, and antioxidant properties (Miraj et al., 2020; Prastiwi & Lestari, 2021)

In addition to taking direct action for patients, according to Frivold et al. (2022); and Pondi, Fauzan, & Yulanda (2020) that family involvement is essential in the care of clients with a high risk of pressure sores, researchers also conduct health education to families about the concept of pressure wound problems, pressure wound care that families can do, and recommendations for the use of olive oil in aspects of patient skin care. This activity will occur on May 1, 2023, at 14.30 WIB. After taking pressure wound risk control measures such as position changes and olive oil administration to education

to families, researchers reported to the shift leader that the action had been completed so that the shift leader could document it on the monitoring chart form.

Nurses' experience in implementing the S.S.K.I.N pressure wound prevention program was measured on five nurses who were directly involved in the program. The characteristics of respondents are described in Table 1.

Table 1. Distribution of ICU Nurse Respondent Characteristics

Category	P1	P2	P3	P4	P5
Gender	Male	Male	Male	Male	Male
Education	Ners	Ners	Ners	D3	D3

Based on the observation results, it was found that some nurses forgot and were inconsistent in changing patient positions, so researchers as program compilers needed to remind/invite ICU room nurses to implement together. Researchers highlight three things from the nurse's response in implementing the decubitus ulcer prevention program in the ICU room.

a) SSKIN approach as a preventive measure

Most nurses agree that this program is suitable for implementation in the ICU room. As an intensive care room in which most patients are attached to medical devices such as ventilators, this condition requires patients to take total bed rest, especially patients with stroke, such as Mrs. R, who cannot independently mobilize the body and extremities. Thus, based on the results of the ICU nurse's narrative, decubitus ulcer prevention efforts contained in the SSKIN approach can be applied to patients in the ICU room, especially in patients with a high risk of pressure sores, as in the case of Mrs. R.

b) Constraints on the implementation of the decubitus ulcer prevention program with the SSKIN approach

Based on the narration of several nurses in the interview session, the application of the SSKIN approach in preventing decubitus ulcers contained in the form chart is considered suitable to be applied in the ICU room. However, for some nurses, it increases the nurse's workload in implementing position changes per 2 hours which was previously only done as necessary and as remembered or when bathing patients. This is, of course, an obstacle that can prevent the prevention of decubitus ulcers from being not optimal. The nurse said that the workload related to the number of nurses on duty in the ICU room in one of the hospital in Bondowoso needed to be commensurate with the needs of nurses in the ICU room. Applying the SSKIN approach to a decubitus ulcer prevention program in the ICU can run with several evaluations, such as modifying the form chart to make it easier for nurses to fill out and understand.

c) Family Involvement

Regarding the workload felt by nurses in implementing this SSKIN-based prevention program, several nurse participants proposed family involvement in implementing programs such as position change actions, giving olive oil, bathing patients, to patient linen/surface treatments. With these efforts, nurses can be independent of patients through family, and nurses are no longer burdened with periodic actions such as changing positions every 2 hours. With education and training for families, it is hoped that families will be able to carry out preventive treatment of decubitus ulcers independently under the supervision of ICU nurses.

3.2 Discussion

3.2.1 Nurse experience using SSKIN Approach as prevention of decubitus ulcer adverse events in ICU room

The SSKIN approach is relatively simple but comprehensive for preventing decubitus ulcers in high/severe risk patients, under the description of the SSKIN approach explained by Bakar et al. (2022) that SSKIN is an evidence-based collection which, when carried out simultaneously, can have a better impact than being applied individually. The guidelines used as the basis for compiling the SSKIN emphasize the 'reliability' of the fifth piece of evidence is based on what is contained in the SSKIN so that each patient receives the care they need and gets at any time (Whitlock, 2013). This is an aspect of the superiority of SSKIN so that nurses can use it as a reference for interventions to prevent pressure sores in stroke patients in the ICU. ICU room nurses also considered the decubitus ulcer prevention program in the ICU room with the SSKIN approach to be much better for patient safety than programs that previously ran in the ICU room. This is because the SSKIN approach is contained in the chart form; there are risk sheet control factors carried out by nurses, including temperature, humidity, tissue perfusion, muscle strength, pressure, friction, and monitoring whether or not wounds appear on the skin periodically.

However, as stated in the results chapter, several nurses also mentioned the shortcomings of the Decubitus Ulcer Prevention Program with the SSKIN approach, namely an increase in workload, form sheets that were considered complicated, and HR factors that sometimes forgot to take programmed actions. Taha (2014) in Bakar et al. (2022) also researched SSKIN practices by nurses to prevent pressure ulcers, showing that most nurses participating in their research had unsatisfactory practices regarding decubitus ulcer management. Most nurses said their constraints were related to the lack of nursing staff and the limited time for direct patient care. This is also in line with Shahin, E., Dassen, T., & Halfens (2008) in Bakar et al. (2022), who also concluded that the obstacles in implementing decubitus ulcer prevention programs are related to human resources and working time. Relevant to the results of interviews with 5 ICU nurses conveyed constraints related to workload where these variables have a close relationship with HR and working time (Gunawan, 2016).

3.2.2 Nurse constraints in implementing the SSKIN program

With the many aspects contained in the SSKIN form chart that researchers use, nurses consider this to hinder nurses from completing other primary work in the ICU room, so it is not uncommon for nurses to feel tired and forget / reluctant to practice implementing decubitus ulcer prevention with the SSKIN approach form chart. The workload is one of the factors of work stress in nurses. Prolonged stress will impact a person's body system, including emotional impacts, which include depression, anxiety, psychological and physical stress, and decreased concentration (Rahmawati & Vellyana, 2022). Therefore, this will directly impact the performance and results of patient service.

The need for anti-decubitus mattresses is also an obstacle for nurses in implementing the decubitus ulcer prevention program in the ICU room in one of the hospital in Bondowoso because only 3 out of 8 quota beds are available. Meanwhile, the ICU room is a remarkable treatment room in which the majority of patients are attached to ventilators that require patients to bedrest and become a risk group for pressure sores (Pondi et al., 2020; Rahayu, 2018; Sari et al., 2022). This condition is undoubtedly an obstacle for nurses if, based on the screening results, there are eight patients with a high risk of decubitus ulcers. At the same time, the ICU room only has a limited number of anti-decubitus mattresses.

3.2.3 Family involvement in pressure wound prevention with the SSKIN program

To anticipate the additional workload of implementing the SSKIN pressure wound prevention program, some nurses said there is a need for family involvement in implementing decubitus ulcer prevention in patients to create active collaboration between nurses, patients, and families. This is in line with the nursing theory proposed

by Dorothy Orem, which is referred to as a conceptual model of self-care that focuses on efforts to improve the ability of individuals and families to be able to care for themselves and family members independently to be able to maintain their welfare and health (Dwi Sulistyowatia, Yoani M. V. B. Atyb, & Angela M. Gatumc, 2020; Mardiyaningsih, 2018). Thus, to reduce the nurses' workload in implementing decubitus ulcer prevention programs in the ICU, nurses can provide education and socialization to the patient's family regarding prevention programs and intervene collaboratively.

This idea aligns with research from Jafari et al. (2021), which mentions the importance of the healthcare system planning interventions/implementations to educate and empower families as caregivers to individuals. Rafiei, Vanaki, Mohammadi, & Hosseinzadeh (2021) added that family caregivers need to be trained on pressure wound risk factors, characteristics of pressure sores, pressure wound prevention efforts, adequate nutritional needs, and the use of protective equipment such as mattresses and other tools.

Thus, the implementation of pressure wound prevention programs with the SSKIN approach can be done without increasing the nurses' workload in the ICU room. In practice, when the patient arrives in the ICU room, the nurse immediately conducts an initial nursing screening, including a risk assessment of pressure sores; if the patient is a severe/high risk, then the next step is for the nurse to educate the family regarding risk factors for decubitus ulcers, characteristics of pressure sores, pressure wound prevention efforts, nutritional needs and the use of protective equipment for the protrusion of the patient's body. Furthermore, the nurse conducts action demonstrations to the family and empowers the family so that while the patient is treated in the ICU, routine mobilization needs and other aspects of SSKIN can be met appropriately and thoroughly.

4. CONCLUSION

The SSKIN pressure sore prevention program with form chart media can be carried out in the ICU room with the need for form chart modifications and family involvement in the program. The SSKIN approach risks increasing nurses' workload in performing actions directly to patients. Therefore, family involvement in pressure wound prevention in high-risk patients is crucial for ICU nurses. In supporting excellent hospital services, ICU nurses should be able to consistently and firmly enforce patient safety procedures, one of which is the prevention of pressure sores for bedrest patients, by involving families in every aspect of the action.

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