CONTINUITY OF CARE SYSTEM MODEL IN SURGERY TO PREVENT SURGICAL SITE INFECTION

[1)]Imam Makhrus; [1)]Achir Yani; [1)]Mustikasari
[1)]Department of Nursing, Poltekkes Kemenkes Bandung
Corresponding Author: makhrus.bandung@gmail.com

Abstract: Background: The high level of hospital occupancy had prompted policies to repatriate patients early. Surgical site infection risk did not only occur during hospitalization, surgical site infection could also occur when the patient has been discharged from the hospital. Continuity of care intervention was required to avoid surgical wound infections as long as the patient needed. Objective of this study was to explorer the existing situation of continuity of nursing care system for surgical patient, especially monitoring service to prevent surgical site infection.
Methods: Research method include the first stage was conducted qualitative research through focus group discussion with the staff nurses, head nurses, and nurse managers in public hospitals Karawang area amounted to 25 people.
Result: The result of the study was found 4 themes and 6 subthemes about the need for monitoring surgical wound care, Constraints of continuous nursing care, Impact of lacking the monitoring and following-up, No-continuity of care, Risk of surgical site infections as a result of severe disconnection, and Risk of readmission. Continuity of care system model in surgery patients was very important to be applied in nursing care to improve patient satisfaction and shorten wound healing time.

Keywords: Continuity of care, Monitoring system, surgical site infection

Background

Currently, patient safety has been broadly accepted as the foundation of all aspects in health care. The hospital as one of the health care facilities with its complexity, making incidents and mistakes very plausible to happen. The organization of hospital aimed in facilitating public access towards healthcare services; providing safety for patients, society, hospital environment and human resources in the hospital; Improving quality and maintaining hospital service standards[1].

The prevalence of surgical site infection in R. Soedjono Selong hospital since May 4, 2010 - June 3, 2010 has reached 21.6%. All occurrences occurred in the 3rd class treatment room, which was possible due to poor air circulation[2]. While SSI could be detected at polyclinics and home, it was mostly found in respondents who did not have adequate home care planning information.[2] Also, bacterial spread by the hands of medical staff or nurses could be a major cause among others. Judging from the closest and most frequent contact between each component, nurses were the most responsible[3].

Duffy argued that the suffering of patients and families today was not only because of the illness they were experiencing, but also from the health care system itself. Fragmented processes, medical errors, and lack of links between healthcare providers might create uncertainty, unnecessary stress, discomfort, functional decline, dissatisfaction, and high financial burden[3].

The high level of hospital occupancy in several cities in Indonesia has now pushed policies to shorten hospitalization period.

The average length of hospitalization in surgical patients was 3-5 days after procedure. The need for continuity of care system of surgical patients through coordination, communication and information. Care coordination could be potential in reducing costs and improving treatment outcomes[4]. Integration was needed to build a sustainable nursing service system that involved a multidisciplinary working group. An important factor in nursing care is to provide nursing services at home for patients who need advanced nursing care. Home care services are provided to patients of all ages, especially adults with complex care needs[5].

Nursing care is complex. The process required to communicate information on an ongoing basis is a challenge for nurses and nursing care institutions. Lack of communication process can create the potential for errors[6]. Continuity of care has been recognized as an essential part of an overall quality health care service. Continuity of care relates to connectivity, coherence, and consistency of care provided over time. Continuity of relevant care is provided in various health care settings and has informational, management, and relational components, all of which can be measured against certain criteria[7].

Patient care after discharge from the hospital needs to involve the family. After being discharged from the hospital, the patient's condition is not stable yet requires continuous assessment assistance and adjustment of care according to the patient's needs[8]. The results of Bikmoradi's[9], research show that continuity of care has a positive impact on improving the quality of life of COPD patients. Patient care is not only limited to the hospital environment, continuity of patient care needs to be carried out after the patient returns from the hospital.

Continuity of care might likely to have implications in increasing patient satisfaction and staffs' quality of service, reducing maintenance costs, and providing better health outcomes[10]. Risk of Surgical site infection could also occur when the patient has been discharged from the hospital. Therefore, continuity of care system should be done from pre-operation phase, through intra operation and towards post operation periods. Then progressed into monitoring follow-up care service after discharge.

Methods

The data was collected by using Focus Group Discussion (FGD) in Karawang regional general hospital with type B and accredited. There were 25 participants consisted of 6 staff nurses (ns), 13 head nurses (hn), six nurse managers (nm). The discussions were divided into three groups of nurse managers, head nurses, and staff nurses This study has met the ethical requirements and granted the letter of permission from the university and hospital. Participants were explained before conducting the study. Each participant then signed an informed consent. Data analysis were done through several stages, including making and reciting transcripts, analyzing specific statements, identifying themes, writing textual descriptions, writing structural descriptions, and interpreting data tailored to research objectives.

Results

Based on the theme analysis of the focus group discussion result, there are three themes called 'need for monitoring continuity of care', 'monitoring constraints', and impact of monitoring and lack of follow up care after patient discharged.

The need for monitoring surgical wound care

There were several reasons behind the need for monitoring surgical wound care including maintaining standards of SSI prevention protocols, tracking unrecorded SSI incidents, and preventing patient readmission.

The statement was as follows:

"Standard supervision duration for surgical wound infection is 30 days without implants and 90 days with implants. "During the first week, wound care should be done every day" (nm5).

"Until now there was no recorded improvement of their wound after coming home, whether there is infection or not." (nm4)

Patients with surgical wounds require long term treatment. Postoperative patients are hospitalized on average for 3-5 days, so patients still need treatment when returning home. Ensuring patients are well maintained

throughout the service system is part of a continuity of care.

The need for recording after discharge

"Until now there was no recorded improvement of their wound after coming home, whether there is infection or not." (nm4)

"There is no evidence of attendance for a checkup. Many patients should attend the scheduled checkup time but they did not arrive. (nm1)

"After that, the surgery patients went for a checkup to the policlinic, carrying a checkup letter. (But) there is no evidence of patient records (attending a checkup or not)" (nm2)

Some of the activities undertaken when repatriating patients were advocated for control, utilization of community health care facilities for surgical wound care. The results of the study showed that patients were not adherent to control and not monitored. Follow-up care monitoring is necessary to determine the extent to which patients perform surgical wound care. Patient/family should be given choice in determining health care facility for surgical wound care.

Constraints of continuous nursing care system monitoring of surgical patients

Participants revealed about various monitoring constraints after returning home, including no monitoring policy, no monitoring system, no budget allocation, significant distance, and no monitoring officer

The statement was as follows:

"The constraint is a long distance with health facilities to monitor wound care. There is no data from surgical patients who come for a checkup. No information (system) provided yet. (nm5)

"Until now there was no recorded improvement of their wound after coming home, whether there is infection or not." (nm4)

"Patients go home given a letter for control, where to control, whether to go here (hospital) or to other places, the data does not yet exist. (nm2)

"The patient's monitoring and evaluation constraints are not done" (nm4)

"Until now there is no policy for monitoring wound of surgical. Monitoring gets disconnected" (nm5)

Continuity of care in surgical patients can be performed if there is clarity of coordination and information among service providers. The development of patient's health is always monitored through developmental records until the patient is said to be cured.

Impact of lacking the monitoring and following-up care after patient discharged

The impact of lack of monitoring and following-up care after discharge includes no continuity of care. Consequently, the risk of surgical wound infections and the risk of readmission.

No-continuity of care

Participant said that:

"Many patients should come but they did not. Or several days after discharge, the patient returned to the polyclinic. (nm2)

"So, after I've examined, the patient underwent for a checkup one week after coming home. but he's not been going to healthcare provider for a week". (hn5)

The development of the patient's health should always be monitored through developmental records until the patient is said to be cured.

Risk of surgical site infections as a result of severe disconnection

The statement was as follows: "There are infections in surgical wound, maybe home care is problematic for them" (nm2)

"There are many cases when the patient returns to the polyclinic with a wet wound (infection)" (hn4)

"Patients come to the hospital in an infected state" (nm5)

"There are (postoperative complications) in surgery, they come back again with a reopened surgical wound. (hn4)

The expected outcome of continuous care is no complication after surgery. The most common complication was surgical site infections. The results of the study showed the high incidence of surgical site infections.

Continuity of care efforts were undertaken through follow-up care to prevent postoperative complications, especially surgical site infections.

Risk of readmission

Participant said that: "Post SC usually comes with an infected and open wound, finally readmission" (nm2)

"Patients are hospitalized again for secondary hecting measures. Finally treated again after a long time. (hn5)

"Patients returning to hospital, because wound care provided (in the community) is not by hospital standards. (hn1)

"Post amputation of orthopedic patients is asked to be retreated because of the infection" (hn6)

The results of qualitative studies show still the case of re-hospitalization due to surgical wound infection. Ensuring postoperative care is well maintained throughout the service system is part of a continuous nursing service system.

Continuous nursing care system means that the care needed by the patient is not interrupted and there is a link between one treatment and another which is carried out successively, including continuity of information about the latest findings, evaluation, and decision making. Currently, the views and experiences of patients are highly valued to improve the quality-of-care services. Patients and healthcare providers can further engage in productive interactions with the common goal of improving patient health[11].

Coordination is done by involving a number of providers and using information to achieve a coherent management scheme[12]. Lack of access to basic surgical care has become a major concern in governance for low-income populations, and has led to

caregivers often experience failure to coordinate especially at transition points. Transitions can occur between health care entities and over time are characterized by shifts in responsibilities and information flows[14]. When nurses fail to transfer complete and consistent information to patients, it can create nursing care errors[6].

Until now it is difficult to find monitoring of patients who are not controlled to the hospital after discharge. Various obstacles to patient monitoring efforts after returning increased access through the mission of the WHO Global Initiative Emergency and Essential Surgical Care. An estimated 63 million people per year undergo surgical treatment for traumatic injuries, 31 million for malignancies and 10 million for obstetric complications.

Conditions of service in hospitals can pose a risk of impediments to continuous service delivery. Several conditions cause problems in providing continuous service, including shift changes, there are various types of professional service providers, unclear regulatory systems, and patients must be sent home when their illness has not healed. Evashwick's, suggests that the purpose of continuous nursing services is to facilitate client access to appropriate, fast, and efficient services. Continuous nursing service is ideally carried out by providing and placing appropriate resources according to the client's condition so as to avoid duplication of services and avoid the use of inappropriate services[13]. The organization of care involves the personnel and other resources necessary to carry out all patient care activities and is often managed by the exchange of information between participants who are responsible for different aspects of care[14].

According to Gregory[15], continuity of nursing services is one of the important aspects in the delivery of health services. Loss of continuity can have very dangerous consequences. Continuity can be maintained if transfer facilities are available while the patient is in hospital and there is a well-managed discharge plan for the patient. Transfer facilities are needed when patients move from one facility to another, including the availability of accurate and precise information transfer. Information and responsibility are transferred together. Patients, their families, and other informal

home include no monitoring policy, no monitoring system, costs, and no monitoring officer. The results of the study by Alazri[16], show that continuity of care is influenced by demographic factors, factors related to patients and health workers, patient-health professional relationships, inter-professional factors, the role of receptionists and organizational factors. Atherly and Thorpe, demonstrated significant cost reductions in chronically ill patients by using interprofessional clinical teams and care

coordination to educate and empower patients. Accessibility of health services and effective delivery of information depends on adequately trained health care providers[18].

Conclusions

Monitoring was one of the activities that needs to be nurtured to ensure that surgical patients receive continuous nursing services. Monitoring of surgical patients after returning from hospital might reduce the risk of surgery. Further research was needed to obtain more information about important factors in the continuity of patient care in ambulatory surgery settings. Conducting a study on a surgical patient group could provide a more realistic view on matters related to parts of continuity of care in surgery which patients consider important. Results of this study should be used in the developing a continuity of care model of surgical patients.

Acknowledgement

We are grateful to the UPPM Bandung Health Polytechnic for facilitating this research.

References

1. Kominfo. *Uu No 44 Tahun 2009 Tentang Rumah Sakit*. Indonesia: Https://Www.Komisiinformasi.Go.Id/Uploads/Documents/Uu_44_Tahun_2009.Pdf; 2009:1-65.
2. Rahmatulloh M. Kejadian Surgical Site Infection (Ssi) Pada Pasien Pasca Bedah Caesar Dan Faktor – Faktor Risikonya Di Rumah Sakit Umum Dr R Soedjono Selong Kabupaten Lombok Timur. 2010.
3. Impact Of Continuity In Nursing Care On Patient Outcomes In The Pediatric Intensive Care Unit Kee Chen Elaine Siow In Nursing Presented To The Faculties Of The University Of Pennsylvania In Partial Fulfillment Of The Requirements For The Degree Of Doctor . 2012.
4. Ana. The Value Of Nursing Care Coordination: Executive Summary. 2010.
5. Vingare El, Carlsson Õu. Adaptation To Care Dependency In Community Care. *Qual Ageing Older Adults*. 2017;18(4):254-264. Doi:10.1108/Qaoa-05-2017-0016
6. Tacchini-Jacquier N, Hertzog H, Ambord K, Urben P, Turini P, Verloo H. An Evidence-Based, Nursing Handover Standard For A Multisite Public Hospital In Switzerland: Web-Based, Modified Delphi Study. *Jmir Nurs*. 2020;3(1):E17876. Doi:10.2196/17876
7. Davis Km, Eckert Mc, Hutchinson A, Et Al. Continuity Of Care For People With Multimorbidity: The Development Of A Model For A Nurse-Led Care Coordination Service. *Aust J Adv Nurs*. 2020;37(4):7-19. Doi:10.37464/2020.374.123
8. Kollerup M, Curtis T, Laursen Bs. Improving Visiting Nurses' Post-Hospital Medication Management A Participatory Approach. *J Integr Care*. 2018;26(1):65-76. Doi:10.1108/Jica-05-2017-0011
9. Bikmoradi A, Jalalinasab A, Salvati M, Ahmadpanah M, Divani F, Roshanaei G. Impact Of Continuity Of Care On Quality Of Life In Patients With Chronic Obstructive Pulmonary Disease: A Quasi-Experimental Study. *J Integr Care*. 2019;27(1):26-36. Doi:10.1108/Jica-04-2018-0033
10. Pohan, I. S. *Jaminan Mutu Layanan Kesehatan*. Jakarta: Egc; 2007.
11. Husdal R, Thors Adolfsson E, Leksell J, Nordgren L. Diabetes Care Provided By National Standards Can Improve Patients' Self-Management Skills: A Qualitative Study Of How People With Type 2 Diabetes Perceive Primary Diabetes Care. *Heal Expect*. 2021. Doi:10.1111/Hex.13247
12. Wenger Ns, Young Rt. Quality Indicators For Continuity And Coordination Of Care In Vulnerable Elders. *J Am Geriatr Soc*. 2007;55:S285-S292. Doi:10.1111/J.1532-5415.2007.01334.X
13. Evashwick C. *Long-Term Care. Third Edition.* Third Edit. California: Thomson Delmar Learning; 2005.
14. Freeman G, Hughes J. Continuity Of Care And The Patient Experience. *Inquiry*. 2010;14(2):82-87. Doi:10.1016/J.Enconman.2011.02.027

15. Perdok H, Verhoeven Cj, Van Dillen J, Et Al. Continuity Of Care Is An Important And Distinct Aspect Of Childbirth Experience: Findings Of A Survey Evaluating Experienced Continuity Of Care, Experienced Quality Of Care And Women's Perception Of Labor. *Bmc Pregnancy Childbirth*. 2018;18(1). Doi:10.1186/S12884-017-1615-Y
16. Uijen Aa, Bosch M, Van Den Bosch Wjhm, Bor H, Wensing M, Schers Hj. Heart Failure Patients' Experiences With Continuity Of Care And Its Relation To Medication Adherence: A Cross-Sectional Study. *Bmc Fam Pract*. 2012;13(1):1. Doi:10.1186/1471-2296-13-86
18. Scott L, May C. Enhancing The Role Of Nursing In Primary Care Facilitates Task Sharing And Addresses Human Resource Shortages To Achieve Optimal Population Health Outcomes. *Evid Based Nurs*. 2020;23(4):109. Doi:10.1136/Ebnurs-2019-103143