

Implementation of Discharge Planning Based on McMaster of Family Functioning in Stroke Patients: A Systematic Review

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Abstract

Objective: The purpose of this systematic review is to increase the level of family independence by involving families in the care of stroke patients while in the hospital through the application of McMaster of Family Functioning-based discharge planning.

Methods: The method applied in this study is a systematic review. Search process using research from the last 5 years 2018-2023 with 4 data bases, namely Science Direct, Web of Science, Springer Link, and Pro Quest. Keywords in a systematic review adjusted to Medical Subject Heading (Mesh) phrases, namely "Discharge planning" AND "Family Functioning" OR "Family Independence". This research used the population, intervention, outcomes, and studies (PIOS) framework to determine the criteria.

Results: The 14 articles can provide in-depth insights into the role and importance of family participation to increase the level of family independence in the care of stroke patients while in the hospital through the application of discharge planning based on McMaster of Family functioning

Conclusion: The importance of discharge planning from the beginning by involving the family in care while in the hospital in accordance with family functions, and a collaborative approach in improving treatment outcomes and So that it can prevent the complications of the disease suffered. Nurse intervention is important in the implementation of discharge planning, namely providing education and always involving the family in every nursing action on the patient.

Keywords: Discharge Planning, McMaster of Family Functioning, Stroke

Introduction

Cerebrovascular accident (CVA) or commonly called stroke is the second leading cause of death and the third leading cause of disability [1]. Stroke with an accompanying disability is a serious problem. Family participation in patient care is inevitable [2]. Services in the field of nursing have long used discharge planning provided both before, during and after treatment, but families are still not able to show a maximum level of independence in the care of stroke patients [3]. The provision of health education to patients and their families is still provided by chance only if there are questions from patients or their families and has

not been packaged in a health education format that is suitable for the patient's condition. Suboptimal explanations will affect family knowledge so that family participation is not optimal in the care of stroke patients while in the hospital [4].

World Stroke Organization data recorded that stroke cases increased by 12.1% in 2020 to 14.9% in 2021. More than 12 million people worldwide by 2024 are predicted to have a stroke and 6.5 million people will die from stroke. In fact, more than 100 million people in the world have had a stroke [5]. Stroke deaths 89% occur in low- and lower-middle-income countries

(Virani et al., 2020). In 2019, the highest number of cases occurred in Southeast Asia with 49% and East Asia 48% [6]. Data from the 2023 Indonesia Health Survey (SKI) shows that the prevalence of stroke in Indonesia reached 8.3 per mile or per 1,000 people over the age of 15 last year. Based on provinces, Yogyakarta ranks first with a prevalence of 11.4 per 1,000 population, exceeding the national average [7].

Family independence is the ability and initiative of the family to recognize and overcome health problems independently [8]. The ineffective and maximum implementation of discharge planning causes the patient's family to not actively participate in the treatment of stroke patients. So far, nurses have tried to involve the family in all patient care since the patient enters the hospital during treatment and will be discharged from the hospital, but the family still delegates all tasks to the nurse [9]. Thus, nurses see that the level of family independence is still very low, namely at the first level which only accepts health workers when they come to check on patients or take other actions. Research conducted by Fiscarina et al, (2023) shows that of the four levels of family independence, the average level of family independence is at the lowest level, namely the first level [10]. One of the factors causing the low level of family independence is the lack of family knowledge in the care of stroke patients. The recovery of stroke patients takes a long time, so family participation is highly expected in helping the healing process. The role and participation of families that are not optimal in the care of stroke patients have an impact on the complications of the diseases they suffer from, including pneumonia aspiration, decubitus, blood clots, malnutrition, contractures and urinary tract infections.

Discharge planning recommends that families actively participate in treatment to help stroke patients recover in hospitals [11].

It has been proven that there are benefits from the implementation of discharge planning on family ability and independence [12]. The results of the study have reported the effectiveness of the implementation of discharge planning with the involvement of families in nursing care so as to affect the recovery of disability in stroke patients [13]. This is in line with research by Aslani et al., and Dharma et al. (2018) that maximum family involvement in the nursing process is very influential in the patient's recovery while in the hospital [14]. Knowledge and awareness of family functioning are needed to encourage changes in family behaviour through the implementation of discharge planning based on the McMaster of Family Functioning (MMFF) by involving the family in every dimension of family functioning [15]. The purpose of this systematic review is to identify the effectiveness of nurses in implementing discharge planning for stroke patients and their families by involving families in patient care based on the McMaster of Family Functioning dimension.

Research Methods

The method applied in this study is a systematic review. Search process using research from the last 5 years 2018-2023 with 4 data bases, namely Science Direct, Web of Science, Spinger Link, and Pro Quest. Writing search results and selecting articles follow protocols and rules with Preferred Reporting Items for Systematic Reviews (PRISMA). Article search using keywords and Boolean system operators (AND OR NOT). Keywords in a systematic review adjusted to Medical Subject Heading (Mesh) phrases, namely "Discharge planning" AND "Family Functioning" OR "Family Independence". This review uses a population, intervention, outcome, and study (PIOS) framework to determine inclusion and exclusion criteria.

Table 1: PIOS Framework

PIOS	Inclusion Criteria	Exclusion Criteria
Population	Stroke patient and family member	Other diagnosis and not family member
Intervention	Discharge planning	Uninvolved studies discharge planning
Outcomes	To find out the effect of discharge planning and McMaster of family functioning	Not discussing about discharge planning and McMaster of Family Functioning
Study Design	Randomised controlled trial, qualitative deskriptif eksploratif, Study observasional, Survei cross-sectional, Study kohort retrospektif, Study kohort longitudinal. Mix-method study, Quasi experiment	-
Publication Years	2018-2023	Under 2018 and above 2023
Language	English	Other international Language

The studies used in this systematic review are using Randomised controlled trials (RCTs), Qualitative descriptive exploratory studies, Observational studies, Cross-sectional surveys, Retrospective cohort studies, Longitudinal cohort studies. Mix-method study, Quasi experiment. The first stage of article searches on four databases with predetermined keywords resulted in 83,313 articles. It consists of Spinger-Link 7891 articles, Science Direct 19,458 articles, Pro Quest 55,184, and Web of Science (WOS)

780 articles. Then the articles are identified by language, year, open access and duplication so that the remaining number is 500 articles. The second stage is to filter articles based on titles and keywords totalling 478 articles. The third stage is to select the feasibility of the remaining 22 articles based on abstracts and completeness and meet the requirements so that the results are found to be 14 articles that meet the inclusion and exclusion criteria to be reviewed.

The article selection flow diagram is as shown in the following chart:

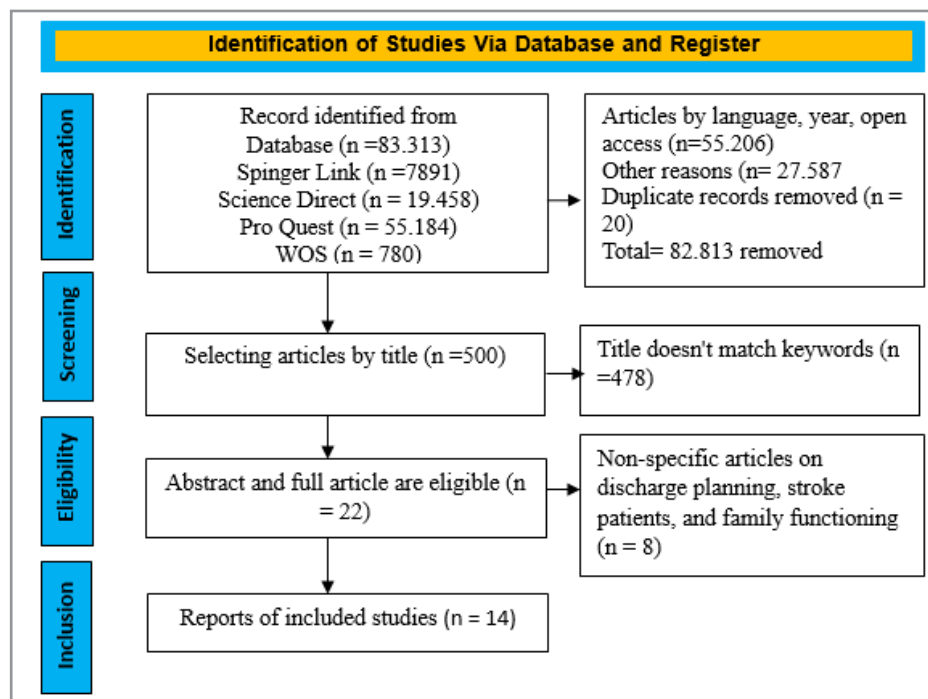


Figure 1: Article search flow chart From: McKenzie et al., 2020

Result

No	Title and Author	Method: (Design, sample, Variable, Instrument, Analysis)	Result
1	The effectiveness of discharge planning stroke patient due to hypertension to improve patient satisfaction (Simbolon et al., 2019) [16]	D: Quasi Eksperiment S: 160 Patients consist of 2 groups, V: Independen: discharge planning in stroke Dependen: Patient Satisfaction I: Client satisfaction Quistionnaire (CSQ-) A: Chi-square	The results showed that patient satisfaction compared pre and post-test between the intervention groups was very strong and significant, Patient discharge planning applied from the beginning of the patient's admission to the hospital until the patient was discharged can increase the level of patient and family satisfaction
2	Association Between Family Functioning and Health-related Quality of Life in Stroke Survivor (Li et al., 2024) [15]	D: cross-sectional study S: 71 keluarga V: Independen: Family functioning Dependen: Quality of life of stroke patient I: Questionnaire Family Assessment Devise General Function (FAD-GF) A: SPSS versi 22 (IBM)	Mengeksplorasi hubungan antara fungsi keluarga dan kualitas hidup terkait kesehatan pasien stroke. Baik pasien stroke maupun pengasuh keluarga informal have to explore the relationship between family function and health-related quality of life of stroke patients. Both stroke patients and informal family caregivers had low family function scores, indicating an effective family functioning well. Stroke patients reported ineffective family functioning versus effective family functioning had significantly lower scores, the results clearly showed that family functioning was essential in ensuring the quality of life of stroke patients, especially in the mental component. Healthcare workers should prioritize mental health assessments and provide appropriate care. effective families have much lower scores, The results clearly show that family functioning is very important in ensuring the quality of life of stroke patients, especially in the mental component. Healthcare workers must prioritize mental health assessments and provide appropriate care.
3	Acute stroke patients' knowledge of stroke at discharge in China: a cross-sectional study (Wang et al., 2018) [17]	D: cross-sectional Study S: 1531 patient V: Independen: Knowledge of stroke patient Dependen: discharge I: Educational Attainment Questionnaire A: Data software package (version 3.1), Statistical Analysis (SAS) 9.4 for Windows (SAS Institute Inc., Cary, NC, USA) exactly.	Most patients with Acute Ischemic Stroke (AIS), have little knowledge about stroke. Further efforts must be devoted to strengthening stroke education in hospitals through the implementation of discharge planning from the beginning of patient admission. This is intended so that patients and families have knowledge about the treatment of stroke patients

4	The role of collaborative decision-making in discharge planning: Perspectives from patients, family members and health professionals (Gledhill et al., 2023) [18]	D: Qualitative, Phenomenology S: 61 patients, families and health workers V: Independent: Stakeholder Perspectives Dependen: Subacute treatment I: Structured questionnaires	Collaborative decision-making planning in patient discharge can improve the quality of subacute care and improve patient health outcomes. Participants included patients, family members, health professionals and professionals, recognizing the importance of collaborative decision-making in subacute care as well as demonstrating that educational and staff training and goal-setting clinical reasoning are related and also considered important in subacute care
5	The Quality of discharge care planning in Acute stroke care, Influencing factors and Association with post discharge outcomes (Andrew et al., 2018) [3]	D: Cross- sectional S: 200 patients V: Independent: discharge planning Dependen: Influencing factors and outcomes after discharge I: the 3-level European Dimensions (EQ-5L-3L) visual analog scale (VAS) A: Chi-Square and Mann-Whitney U tests	The results showed that the factors related to the discharge of stroke patients were quality of life, referral to the nearest health facility, need and receipt of information from health workers during the treatment period
6	Family functioning and stroke: Family members' perspectives, (Gawulayo et al., 2021) [19]	D: Qualitative, descriptive, exploratory S: 8 family members V: Independent: Stroke family function, Dependent: Family member's perspective I: In-depth interviews A: Thematic analysis	The study found that stroke can negatively affect family function because family members may be forced to change their functional patterns. However, some family members report positive experiences, they develop supportive structures to accommodate the stroke sufferer's new life
7	Effect of early supported discharge after stroke on patient reported outcome based on the Swedish Risk stroke registry, (Brändal et al., 2019) [20]	D: Study observasional S: 30.232 patient V: Iindependen: Effect of early supported discharge Dependent: reported outcome based on the Swedish Risk stroke registry I: observation and Stroke Impact Scale (SIS) A: Separate multivariable regression model	Results showed that, compared to the controls, the ESD group was more satisfied with rehabilitation after hospital discharge (OR: 1.78.95% CI: 1,172.49), experienced less dysthymia/depression (OR: 0.68, 95% 0.55–0.84) and showed more independence in mobility (OR: 1.50.95%CI:1.17–1.92), toilet use (OR: 1.30, 95%CI: 1.05–1.61), and dress (OR: 1.23, 95%CI: 1.02 –1.48).
8	Family Functioning and optimism as Protective factors of life satisfaction Among Stroke Patients During the COVID-19 Epidemic in Shenyang, China, (Song et al., 2022) [21]	D: Survei cross-sectional S: 207 patients V: Independent: Family Functioning and optimism as Protective factors of life satisfaction Dependen: Stroke Patients I: Kuisisioner Family Asessment Device (FAD) A: Analisis regresi berganda	This study contributes to research on the relationship between family function and optimism towards life satisfaction in stroke patients during the COVID-19 pandemic. Interventions that improve family functioning and increase optimism should be given to improve the life satisfaction of stroke patients
9	Development of a patient decision aid for discharge planning of hospitalized patients with stroke (Prick et al., 2022) [22]	D: Mixed methods S: 74 patients V: Independen: Patient Decision Assistance, Planning for the discharge of hospitalized patients Dependen: Stroke patient I: Control Preference Scale (CPS) dan Decisional Conflict Scale (DCS), Likert scale, Structured questionnaires A: Quantitative data and qualitative data in Analytical with IBM SPSS (version 22)	In conclusion, our user-centric design process results in an acceptable and usable patient decision aid in an integrated manner thereby obtaining information to support hospitalized patients with stroke and about discharge objectives. Because every patient can benefit from the provision of information and active involvement in the discharge planning process of stroke patients
10	Correlation Between Family Functioning and Health Beliefs in Patients with Stroke in Beijing, China (Zhang et al., 2023) [23]	D: cross-sectional design S: 253 patients V: Independen: Family Functioning and Health Beliefs Dependen: Patients with Stroke I: questionnaires Family Asessment Device (FAD) A: SPSS 22.0	Family functioning of patients with stroke is poor in behavioral control, emotional response and role dimensions. Health confidence levels in patients with stroke should be improved, and family functioning can promote this. Education should be strengthened to improve the family function of stroke patients, which is beneficial for the promotion of health confidence in patients with stroke. These findings provide useful insights for rehabilitation physicians to develop interventions tailored to Chinese culture and run on home-based therapies to improve outcomes for stroke patients.
11	Effects of discharge planning services and unplanned readmissions on post-hospital mortality in older patients: A time-varying survival analysis, (Yen et al., 2022) [24]	D: Prospective Observational S: 297 Patient V: Independent: Discharge planning, unplanned readmission, Dependen: post-hospital mortality I: Structured questionnaires A: Descriptive analysis of distributions, frequencies, percentages and averages	The results showed that after controlling for age, surgery, tube use, physical and mental disability or severe illness, body mass index, incontinence, muscle weakness, malnutrition problems, and length of hospital stay, elderly patients who had received discharge planning services had a significant influence on the disease suffered. lower risk of death within 1 year of discharge from the hospital.

12	Effectiveness of a family-based program for post-stroke patients and families: A cluster randomized controlled trial, (Deepradit et al., 2023) [25]	D: Randomized controlled Trial S: 2 group (31 family members each) V: Independent a family-based program Dependent: Post stroke patients and families I: Questionnaires and interventions A: Descriptive statistics, chi-square test, Bonferroni test, and variance of repeated measurements.	The results of the experiment showed a statistically significant improvement in their functional status and a decrease in depression compared to the comparison group ($P < 0.05$). Family function in the experimental group was significantly improved, and the burden and stress of caregivers decreased compared to the comparison group ($P < 0.05$). Three patients in the experimental group and seven patients in the comparison group experienced complications.
13	Impact of a pre discharge education session on stroke knowledge: a Randomized Trial (Benoit et al., 2020) [26]	D: Randomized Controlled Trial S: 199 patients V: I: pre-discharge education session D: stroke knowledge I: Educational attainment questionnaire (EAQ) A: Mann-Whitney U-test	Interactive pre-discharge education sessions on stroke patients increased stroke knowledge at 3 months and one year. These Educational Interventions are simple, realistic and convenient to implement and can be easily generalized within the stroke unit
14	The Discharge Process—From a Patient's Perspective (Krook et al., 2020) [27]	D: Studi Deskriptif S: 15 patients V: I: Discharge Process D: Patient's Perspective I: Semi-structured interviews A: Thematic analysis	Accessibility, information, communication, confidence, and participation are essential in the future development of the repatriation process. The findings of this study show that in affirmation with the patient's experience and wishes, there is a great urgency for improvement in the discharge process. It is necessary to focus on information and communication when leaving by initiating interaction from nurses along with doctors at certain times in the discharge process. The discharge process needs to be more individualized and person-centered which can lead to better patient governance. Both accessibility and continuity need to be improved. The information provided needs to be met with the patient's level of understanding

Discussion

Stroke is one of the most severe neurological disorders that results from decreased cerebral blood flow in certain parts of the brain due to blood vessel injury, [28]. Stroke patients face a number of problems that include physical, social, emotional, psychological, and spiritual which can cause a decrease in their well-being. Strengthening the role of the family, family support, is needed. Stroke is the main cause of disability that acquired in adults is a cerebrovascular disease that has a major impact on health and social society, this is certainly not only due to its prevalence and incidence but also because of its significant consequences in terms of patient dependence and the impact it has on as a result of this stroke, in the joints of the patient's life and his family [29].

Discharge planning is a determining indicator of the success of services in hospitals. By therefore, discharge planning must be given since the patient is treated to increase patient and family knowledge, thereby accelerating the healing process and reducing recurrence of stroke patients. It is often found that discharge planning is only carried out when the patient is allowed to go home from the hospital (Rezkiki, F., & fardilah, 2019). Nurses lack information about matters related to the patient's daily needs and how the family can overcome the problems that arise [30].

Patients and families who receive effective and efficient discharge planning from caregiver professionals by involving the family in each phase of discharge planning in accordance with the family function consisting of six dimensions, namely: problem solving, communication, roles, affective responses, affective involvement and behavioral control that are applied according to the phase, namely from the beginning of the patient's admission. During the treatment of stroke patients in hospitals, it is hoped that there will be a learning process in the family through the

implementation of discharge planning based on McMaster of Family Functioning provided by nurses/health workers and is expected to increase the level of family independence through family participation in caring for stroke patients. A well-functioning and effective family is essential to ensure the quality of life of stroke patients, especially related to their mental health.

The implementation of MC Master of Family Functioning based discharge planning in hospitals is very important to increase family involvement in the care of stroke patients while in the hospital. By actively involving the family, the patient's recovery process can be improved, and the risk of complications can be minimized [31]. The implementation of discharge planning from the beginning of the patient's admission to the hospital until the discharge is increased by increasing the satisfaction of the patient and his family. This shows the importance of integrating discharge planning in care from the start, which may not have been widely applied or evaluated in detail before. Good family functioning is closely related to the quality of life of stroke patients, especially in the mental component. It emphasizes the importance of the role of the family in the care of stroke patients, an aspect that is often overlooked in conventional medical care [32, 33]. The importance of stroke education that starts from the period of hospital care and is integrated in discharge planning, provides a new model to improve patient and family knowledge about stroke. Active and collaborative family participation can improve subacute care outcomes, offering a new approach to more inclusive and participatory subacute care management. So that it can prevent the complications of the disease suffered [27].

Conclusion

The importance of discharge planning from the beginning of the patient's admission to the hospital, during treatment and when he is about to leave the hospital by involving the family in treat-

ment while in the hospital in accordance with family functions. A collaborative approach in patient care is expected to accelerate the patient's recovery process, and minimize the risk of complications from the disease suffered. Nurse intervention is important in the implementation of discharge planning, namely providing education and always involving the family in every nursing action on patients.

Suggestions

This review can be an additional reference for nurses in providing patient discharge planning, further research is needed. In the implementation of discharge planning based on McMaster of family Functioning to ensure its effectiveness on patients and families.

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