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Effectiveness of Nursing Discharge Planning Interventions for Stroke Patient: A Systematic Review

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ABSTRACT
Inadequate discharge planning for stroke patients poses significant challenges for healthcare. Effective discharge planning interventions have been examined in several studies, but little information is available about nursing roles or specific components of these interventions. It aims to explain the effectiveness of nursing planning interventions for stroke patients. This study was conducted through a systematic review with the PRISMA approach. It uses the Scopus database, Science Direct, and ProQuest. Search using the Boolean phrases "Nursing Intervention", "Stroke", "Family Empowerment", "Home Visit", "Discharge Planning", The criteria for consideration in literature study are original articles, sources from journals, articles in English, and available in full text. We obtained 28 articles, and 15 were considered relevant. To analyze the methodological quality in each study, JBI was used for this type of experimental study. Based on a review of 15 articles, it was found that family empowerment-based discharge planning was proven to be effective in improving quality of life, self-care independence, exercise-based discharge planning to be effective in self-care independence, and discharge planning based on home visits and ADL training to be effective in improving self-care independence and mobility. All nursing interventions should be considered an evidence-based practice for stroke patients.

Keywords: Nursing Interventions, Stroke, Family Empowerment, Discharge Planning

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BACKGROUND

Discharge planning for stroke patients is an important component in helping the recovery process and preventing relapse in patients (Mennuni et al., 2017). Stroke sufferers can be minimized when nursing services related to continuing care need to be maintained up to home care. Even though they have received good service at the hospital, the care given must be prepared and continued until the stroke patient arrives at home to support his recovery (Mennuni et al., 2017). Until now, the discharge planning model was only carried out by giving control sheets to patients without involving education to the family, while the role of the family in helping the patient's recovery was very important. So that family empowerment through discharge planning needs to be developed so that families can be independent in providing care for stroke patients which will affect their quality of life(Andrew et al., 2018). Globally, the incidence of stroke reaches 70%, and the death rate due to stroke reaches 87%, which has occurred in developing countries (Johnson et al., 2016). By 2020, an estimated 7.6 million people will die from strokes. Stroke is also a major cause of cognitive disability and dysfunction in the elderly. The increase in stroke mortality occurred in developing countries, especially in the Asia Pacific region(Xiong et al., 2016). Indonesia is listed as the country with the largest number of stroke sufferers in Asia. One of the seven people who die in Indonesia is caused by stroke (Ministry, 2018). The number of stroke sufferers in Indonesia reaches 500,000 people each year; around 2.5% or 125,000 people die, and the rest are mild or severely disabled. The results of the Basic Health Research (Riskesdas) of the Indonesian Ministry of Health (Kemenkes) in 2018 showed that the prevalence of stroke based on medical diagnosis in people over 15 years of age was 10.85% (Johnson et al., 2016).

Discharge planning related to preventing and minimizing the incidence of more severe disabilities has been provided by nurses when the patient is in the hospital (Asmuji et al., 2018; Kerr, 2012; Simbolon et al., 2019). Also, It requires the participation of the family or informal caregiver to support the improvement of functional abilities and quality of life in stroke patients (Nunes & Queirós, 2017). However, currently, discharge planning for patients in the hospital is generally only in the form of notes on the patient's resume and providing brief information about the patient control schedule to the polyclinic, which drugs to take, and the diet that must be met and avoided after the patient returns from the hospital. Information is only given when the patient is declared to be allowed to go home, even though discharge planning should start on the first day the patient is admitted to the hospital. This practice cannot yet be categorized as an ideal discharge planning because it is given in a short time, and the information is limited, so it may not guarantee changes in the patient and family behavior. Several studies have shown low levels of participation in the care of stroke patients (Nishijima, Daniel; K. Simel, David L; Wisner, David H; Holmes, 2016; Maeshima, 2013) which results in stroke survivors experiencing severe and prolonged strokes (Wagachchige Muthucumarana et al., 2018).

The implementation of discharge planning has provided benefits to family independence in providing nursing services to stroke patients. Several studies have found benefits from implementing discharge planning on family independence (Almborg et al., 2009). However, to strengthen behavior change through participation in providing nursing services, it is necessary to add to the empowerment theory to implement nursing services from families that can be maximized and independent. The results showed that there were benefits for family involvement in nursing services to recover ostroke patients (Creasy et al., 2015; Dharma et al., 2018; Lutz et al., 2013). The purpose of this paper is to determine the effectiveness of discharge planning for patients with stroke.

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METHODS

Search strategy

The search strategy aimed to find both published and unpublished studies. A three-step search strategy was used in this review. An initial limited search in MEDLINE, SCOPUS, PROQUEST, SCIENCE DIRECT, and CINAHL databases was first performed, followed by an analysis of the text words in the title and abstract of index terms used to describe the article. A second search using all identified keywords and index terms was then undertaken across all included databases. Third, the reference list of all identified reports and articles was assessed to identify further additional studies. The databases searched included PubMed, CINAHL, Embase Health Source, JBI Database of Systematic Reviews and Implementation Reports, Cochrane Library (DARE, CCTR), Web of Knowledge, BioMed Central, and Health Source: Nursing/ Academic Edition. The search for unpublished studies included ProQuest, Network Digital Library of Thesis and Dissertations, The Dart, TripDatabase, and the Mednar search platform. Initial keywords used: nursing interventions**,** stroke, family empowerment, home visit, discharge planning.

Study design

The study design that became the inclusion criteria in this Systematic Review is the Random Controlled Trial (RCT) design which is published in English.

Population

The population in this systematic review are all studies describing patients undergoing discharge planning intervention with or without a control group, all ages with stroke and looking the effect of discharge planning on stroke patients.

Intervention

This review included all various types of effects of discharge planning on stroke patients..

Clinical results

The main result of this systematic review was to examine the effect of discharge planning on stroke patients. The research was used without any time limit for the intervention.

Study selection

The standard protocol for selecting studies as suggested in the systematic review method guideline is PRISMA. The steps taken are:

1. Duplication elimination
2. Independent checks for titles, abstracts, and keywords and remove irrelevant citations according to the inclusion criteria,
3. If the title and abstract appear to meet the inclusion criteria and are compatible with the purpose of a systematic review, the next step is to select the full-text journal
4. The final step is the selection of journals that use the Randomized Controlled Trial approach to reduce the risk of bias

Data extraction

Data were extracted from each of the eligible studies. The data extracted included study characteristics, characteristics of mindfulness, outcome characteristics and a summary of the results.

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Data analysis

The studies were stratified according to the impact of the effect of discharge planning on stroke patients. If possible, studies were then stratified by time of follow-up and type of control group.

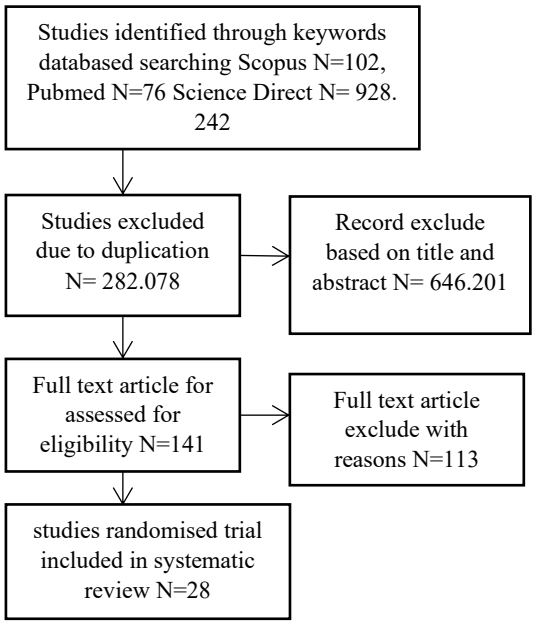

Figure 1 search flow diagram of the current systematic review

RESULTS

Literature search and study selection

Fig. 1 summarizes the search results and selection of studies following the PRISMA guidelines (Liberati et al., 2009). The selection of journals based on the keywords used resulted in 928,420 potentially relevant studies. 282,078 duplicates were removed and 646,201 titles and abstracts found were searched. A total of 141 full-text studies were taken, with 113 studies excluded because they did not meet the eligibility criteria, such as not using English and not an intervention. So that 15 studies were selected to be conducted a systematic review.

Population

The sample size of the study used is in this systematic review which at least was 23 people divided into two groups, namely the control and intervention groups, while the largest sample size was 271 people divided into three (3) treatment groups as well as female patients with stroke condition.

Intervention characteristics

Based on table 2, there are several types of discharge planning interventions, including discharge planning with the family and the patient himself. Interventions are carried out with different durations, with the shortest time being 30 minutes and the longest time being 45 minutes per day.

Clinical outcome measures

The study reports the outcome measures used to measure Iskandar's Muscle Rating Scale (MRS), European Quality of Life-5 Dimensions EQ-5D Nadine, Readmission questionnaire, The functional independent measure (FIM), Motor recovery improvement, a generic Quality of Life Scale, and the Patient Activation Measure (PAM).

Intervention efficacy analysis

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For each RCT intervention described, they evaluated the discharge planning intervention. Some journals continue to follow up until 12 months after the intervention to assess the long-term effect of the intervention that has been done.

DISCUSSION

Findings from this review suggest that nursing discharge planning for inpatients with stroke patients discharged from the hospital does not reduce readmission rates or improve quality of life and improve the ability to perform self-care independently. Thus, there are several limitations to the findings of this systematic review. These findings could be explained by the lack of robust data on the effectiveness of nursing discharge planning interventions on readmission, length of stay, and quality of life. Specifically, all interventions in the included study were initiated in the inpatient setting and consisted of nurse assessments and follow-up. In some studies, the intervention continued after leaving home - that is, telephone contacts, home visits, or a combination of the two. The number of contacts varied across studies (from two to more than 10), as did the time of the intervention. Some follow-up contacts were made within 24 hours of hospital discharge, while others lasted up to nine months.

Studies include examining structured nursing discharge planning as compared to usual care. However, explicit descriptions of what constitutes regular treatment are not consistently provided (Simbolon et al., 2019). Four studies reported a significant increase in the selected outcome measures. Cumulatively, nursing discharge planning did not result in a significant change in terms of emergency room visits or hospital admission rates (Asmuji et al., 2018)(Nunes & Queirós, 2017)(Almborg et al., 2009). Furthermore, substantive heterogeneity was found across intervention providers, interventions used in transition care, and outcome measures across studies (Regan et al., 2019). This may reflect the complex nature of multilevel interventions, such as nursing discharge planning. The clinical heterogeneity between studies suggests that effect sizes may differ according to the intensity of the intervention and/or duration of follow-up(Nishijima, Daniel; K. Simel, David L; Wisner, David H; Holmes, 2016). Six studies included post-discharge follow-up as a significant part of the intervention. This component contributes to the continuity of care between the hospital and the home, but the preparation of the patient during hospitalization and before discharge is still important(Reeves et al., 2017)(Smith-gabai, 2016)(Nguyen et al., 2015).

Indeed, discharge preparation includes assessing available resources and the patient's special needs, increasing self-management capacity. Engaging patients in decision-making concerning their care and the appropriate discharge sites (i.e., home, rehabilitation center, and skilled nursing facility)(Huang et al., 2018). Thus, as discharge planning includes multiple interacting levels, insufficient attention to some (or all) of these components could help to explain the lack of an observed overall effect. Nursing discharge planning is a complex intervention that is influenced by multiple, dynamic interacting elements. The structure and organization of the health system seem to be one of the most influential aspects of this process. Evidence for this comes from our subgroup analysis finding that studies conducted in the USA show a significant impact on hospital readmission rate. It is difficult to infer if this effect result from specific components of nursing discharge planning or if this stems from the fact that nursing discharge planning has a lengthy history in the USA. Moreover, these findings may reflect the legislative and financial aspects of their healthcare system, which are very different from the other countries included in this systematic review.

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Lastly, complex nursing interventions included multiple variables and confounding factors that make it very challenging to pool and compare data and results.

CONCLUSION

All nursing discharge planning interventions should be considered evidence-based practices for stroke patients and need to become a significant part of the standard treatment of the disease.

CONFLICTS OF INTEREST

No potential conflict of interest was reported by the author

REFERENCES

Almborg, A. H., Ulander, K., Thulin, A., & Berg, S. (2009). Discharge planning of stroke patients: The relatives' perceptions of participation. *Journal of Clinical Nursing*, *18*(6), 857–865. https://doi.org/10.1111/j.1365-2702.2008.02600.x

Andrew, N. E., Busingye, D., Lannin, N. A., Kilkenny, M. F., & Cadilhac, D. A. (2018). The Quality of Discharge Care Planning in Acute Stroke Care: Influencing Factors and Association with Postdischarge Outcomes. *Journal of Stroke and Cerebrovascular Diseases*, *27*(3), 583–590. https://doi.org/10.1016/j.jstrokecerebrovasdis.2017.09.043

Asmuji, A., Faridah, F., & Handayani, L. T. (2018). Implementation of Discharge Planning in Hospital Inpatient Room by Nurses. *Jurnal Ners*, *13*(1), 106. https://doi.org/10.20473/jn.v13i1.5942

Creasy, K. R., Lutz, B. J., Young, M. E., & Stacciarini, J. M. R. (2015). Clinical Implications of Family-Centered Care in Stroke Rehabilitation. *Rehabilitation Nursing : The Official Journal of the Association of Rehabilitation Nurses*, *40*(6), 349–359. https://doi.org/10.1002/rnj.188

Dharma, K. K., Damhudi, D., Yardes, N., & Haeriyanto, S. (2018). Increase in the functional capacity and quality of life among stroke patients by family caregiver empowerment program based on adaptation model. *International Journal of Nursing Sciences*, *5*(4), 357–364. https://doi.org/10.1016/j.ijnss.2018.09.002

Huang, Y., Chuang, C., Leong, C., & Wang, L. (2018). Effect of Comprehensive Postural Instructions and Range of Motion Exercises Via Educational Videos on Motor Function and Shoulder Injury in Stroke Patients With Hemiplegia : A Preliminary Study. *Journal of Manipulative and Physiological Therapeutics*. https://doi.org/10.1016/j.jmpt.2018.03.004

Johnson, W., Onuma, O., Owolabi, M., & Sachdev, S. (2016). Stroke: A global response is needed. *Bulletin of the World Health Organization*, *94*(9), 634A-635A. https://doi.org/10.2471/BLT.16.181636

Kerr, P. (2012). Stroke rehabilitation and discharge planning. *Nursing Standard (Royal College of Nursing (Great Britain) : 1987)*, *27*(1), 35–39. https://doi.org/10.7748/ns2012.09.27.1.35.c9269

Liberati, A., Altman, D. G., Tetzlaff, J., Mulrow, C., Gøtzsche, P. C., Ioannidis, J. P. A., Clarke, M., Devereaux, P. J., Kleijnen, J., & Moher, D. (2009). *The PRISMA Statement for Reporting Systematic Reviews and Meta-Analyses of Studies That Evaluate Health Care Interventions : Explanation and Elaboration*. *6*(7). https://doi.org/10.1371/journal.pmed.1000100

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Lutz, B. J., Young, M. E., Cox, K. J., Crystal, Martz, & Creasy, K. R. (2013). *Stroke_Crisis : Experiences of Patients and Their Family Caregivers*. *18*(6). https://doi.org/10.1310/tsr1806-786.The

Maeshima, S. (2013). Family Support in Stroke Rehabilitation. *International Journal of Physical Medicine & Rehabilitation*, *04*(07), 9096. https://doi.org/10.4172/2329-9096.1000e104

Mennuni, M., Massimo Gulizia, M., Alunni, G., Francesco Amico, A., Maria Bovenzi, F., Caporale, R., Colivicchi, F., Di Lenarda, A., Di Tano, G., Egman, S., Fattirolli, F., Gabrielli, D., Geraci, G., Gregorio, G., Francesco Mureddu, G., Nardi, F., Radini, D., Riccio, C., Rigo, F., … Zuin, G. (2017). ANMCO Position Paper: Hospital discharge planning: Recommendations and standards. *European Heart Journal, Supplement*, *19*, D244–D255. https://doi.org/10.1093/eurheartj/sux011

Ministry, R. H. (2018). *Hasil Utama Riskesdas 2018*. https://doi.org/10.1177/109019817400200403

Nguyen, V. Q. C., Prvubettger, J., Guerrier, T., Hirsch, M. A., Thomas, J. G., Pugh, T. M., & Iii, F. R. (2015). Factors Associated With Discharge to Home Versus Discharge to Institutional Care After Inpatient Stroke Rehabilitation. *Archives of Physical Medicine and Rehabilitation*, *96*(7), 1297–1303. https://doi.org/10.1016/j.apmr.2015.03.007

Nishijima, Daniel; K. Simel, David L; Wisner, David H; Holmes, J. F. (2016). Clinical Implications of Family-Centered Care in Stroke Rehabilitation. *Physiology & Behavior*, *176*(1), 139–148. https://doi.org/10.1016/j.physbeh.2017.03.040

Nunes, H. J. M., & Queirós, P. J. P. (2017). Patient with stroke: hospital discharge planning, functionality and quality of life. *Revista Brasileira de Enfermagem*, *70*(2), 415–423. https://doi.org/10.1590/0034-7167-2016-0166

Reeves, M. J., Hughes, A. K., Woodward, A. T., Freddolino, P. P., Coursaris, C. K., Swierenga, S. J., Schwamm, L. H., & Fritz, M. C. (2017). *Improving transitions in acute stroke patients discharged to home : the Michigan stroke transitions trial (MISTT) protocol*. 1–15. https://doi.org/10.1186/s12883-017-0895-1

Regan, E. W., Handlery, R., Liuzzo, D. M., Stewart, J. C., Burke, A. R., Hainline, G. M., Horn, C., Keown, J. T., Mcmanus, A. E., Lawless, B. S., Purcell, M., & Fritz, S. (2019). The Neurological Exercise Training (NExT) program : A pilot study of a community exercise program for survivors of stroke. *Disability and Health Journal*, *12*(3), 528–532. https://doi.org/10.1016/j.dhjo.2019.03.003

Simbolon, S., Hamid, A. Y. S., Mustikasari, & Besral. (2019). The effectiveness of discharge planning stroke patient due to hypertension to improve patient satisfaction and independence. *Enfermeria Clinica*, *29*(Insc 2018). https://doi.org/10.1016/j.enfcli.2019.06.011

Smith-gabai, H. (2016). *Occupational therapy discharge planning and recommendations in acute care : An action research study*. *54*.

Wagachchige Muthucumarana, M., Samarasinghe, K., & Elgán, C. (2018). Caring for stroke survivors: experiences of family caregivers in Sri Lanka–a qualitative study. *Topics in Stroke Rehabilitation*, *25*(6), 397–402. https://doi.org/10.1080/10749357.2018.1481353

Xiong, X., Ou, C., You, L., Chen, S., & Zhang, M. (2016). Effectiveness of Goal-Setting Telephone Follow-Up on Health Behaviors of Patients with Ischemic Stroke : *Journal of Stroke and Cerebrovascular Diseases*. https://doi.org/10.1016/j.jstrokecerebrovasdis.2016.05.010