Evaluation of the Effectiveness Delirium Preventive Care Protocol For Hip Fracture Patients

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STUDY PROTOCOL WITH ANALYSIS PLAN

Hip fracture, which is defined as the most serious outcome of osteoporosis, affects patients' daily activities and quality of life (Ensrud, 2013). A high prevalence for the development of delirium after hip fracture is found in the group of geriatric patients (Tsang et al., 2012). Delirium prevention is essential rather than treatment (Strijbos et al., 2013). According to The National Institue for Health and Clinical Excellence (NICE), 30% of delirium cases can be prevented (NICE, 2010). The prevention of delirium, which is a multifactorial phenomenon, can be achieved through a multicomponent care protocol that targets at specific risk factors for delirium.

The aim of this study was to investigate the effectiveness of delirium preventive care protocol on pain, functional status, sleep quality and delirium prevention in patients with hip fracture.

This prospective, randomized controlled experimental study was conducted at a training and research hospital's orthopedics and traumatology department in Turkey. Hip fracture patients aged ≥65 years who were underwent surgery were included. The sample included 40 patients from the intervention group and 40 from the control group. A protocol with a nursing care plan referenced from international guideline and other litherature was developed to prevent delirium and apllied to intevention group (SIGN, 2008; NICE, 2010, Moon & Lee, 2010; Bjorkelund et al, 2010). Control group was applied to regular nursing care in line with the clinical procedure. Study data was collected by using Patient Information Form, Confusion Assessment Method, Visual Analogue Scale, Barthel Index, Mini Nutritional Assessment-Short Form and Richards Campbell Sleep Questionnaire.

Delirium preventive care protocol applied to the intervention group includes; psycosocial care, monitor oxygen saturation to prevent hypoxemia, prevention dehydratation and nutritional support, normal elimination, adequate pain relief, sleep management, remove unnecessary catheter and early mobilization.

The data obtained from the study were analyzed using the SPSS version 22.00 software package. Kolmogorov Smirnov and shapiro Wilk tests were used to evaluate the data with normal or non-normal distribution. Number, percentage, mean, standard deviation, median values and interquartile range were used in descriptive statistical evaluation of the data. In terms of the continuous variables of the intervention and control groups, the significance test of the difference between the two means, which is the parametric test for the normal distribution values (Student's t Test), and the Mann-Whitney U Test for the values that do not fit the normal distribution were used. Pearson chi-square test was used to analyze categorical variables. Fisher's chi-square test was used when the expected value was less than five. ANOVA test was used for the evaluation of normal preoperative, postoperative 1st day and pre-discharge data. Two groups t-test (Paired Sample t test) was used for comparisons

between groups. Friedman test and Wilcoxon test were used for the evaluation of preoperative, postoperative 1st day and pre-discharge data that do not conform to normal distribution. Cronbach α coefficient was used to evaluate the reliability of RCSQ sleep scale. $p < 0.05$ was considered statistically significant and $p < 0.001$ was considered statistically highly significant.

References:

1. Ensrud, K. E. (2013). Epidemiology of fracture risk with advancing age. J Gerontol A Biol Sci Med Sci.,*68(10),1236-1242.*
2. Tsang, L. F., Yeung, C. H., Tse, C. C., Lam, K. B., Cheung, L. P., Chu, K. K., ... & Lau, P. Y. (2012). Developing a predictive tool for post-operative delirium in orthopaedic settings in Hong Kong. *International Journal of Orthopaedic and Trauma Nursing*, *16*(3), 147-159.
3. Strijbos, M. J., Steunenberg, B., van der Mast, R. C., Inouye, S. K., & Schuurmans, M. J. (2013). Design and methods of the Hospital Elder Life Program (HELP), a multicomponent targeted intervention to prevent delirium in hospitalized older patients: efficacy and cost-effectiveness in Dutch health care. *BMC geriatrics*, *13*(1), 78.
4. Scottish Standards of Care for Hip Fracture Patients 2016. https://www.shfa.scot.nhs.uk/_docs/20161109_SSC_for_Hip_Fracture_Patients.pdf. Date: 01.09.2018.
5. The management of hip fracture in adults. Methods, Evidence & Guidance. (Updated 2017). https://www.nice.org.uk/guidance/cg124/evidence/full-guideline-pdf-183081997. Date: 01.09.2018.
6. Moon, K., & Lee, S. M. (2010). Development of an evidence-based protocol for preventing delirium in intensive care unit patients. *J. Kor. Clin. Nurs. Res*.,16(3),175–186.
7. Bjorkelund, K. B., Hommel, A., Thorngren, K. G., Lundberg, D., & Larsson, S. (2009). Factors at admission associated with 4 months outcome in elderly patients with hip fracture. *AANA Journal-American Association of Nurse Anesthetists*, (1),49-58.