入院患者の転倒予測を目的とした転倒リスク行動アセメントツールの開発

著者	檜山 明子
学位名	博士（看護学）
学位授与機関	札幌市立大学
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Summary of Doctoral Dissertation

Development of Fall Risk Behaviors Assessment Tool for Fall Prediction of Inpatient

Student I.D:1275004 Name:Akiko HIYAMA

Objective: To develop a fall risk behavior assessment tool (FRBA-Tool) to predict inpatient falls.

Method: The study had three parts. Study 1: Behaviors of patients at high risk of falls were identified from reports of medical accidents stored by the Japan Council for Quality Health Care (JCQHC). Categories were named based on similarities of behaviors immediately before a fall. Study 2: The appropriateness and reliability of FRBA-Tool (draft) were assessed. A questionnaire for nurses was used to evaluate the content and construct validity of the fall risk behaviors identified in Study 1. Subsequently, data for 378 inpatients at 4 hospitals were retrospectively collected to calculate sensitivity and specificity, in order to evaluate the predictive accuracy of FRBA-Tool. The κ coefficient was calculated to examine the inter-rater agreement in evaluation by 42 nurses. FRBA-Tool was prepared after the draft was amended based on these results. Study 3: A prospective study was performed in inpatients in 11 wards to determine the time for completion and the predictive accuracy of FRBA-Tool. The utility of the tool was evaluated using a self-administered questionnaire completed by nurses.

Results: Study 1: Based on the similarities of behaviors immediately before a fall, 1,445 falls were categorized into 18 subcategories and 4 categories: habitual behavior in unstable conditions, mistaken perception of capacity for activity, using items in an unsafe manner, and behavior before making a correct judgment. Study 2: Fourteen of the 18 items met the criteria for content validity. The sensitivity and specificity for fall prediction were 83.9% and 62.7% (AUC 0.79), respectively. The correlation coefficient for the criterion-related validity was 0.702. The inter-rater agreement was generally satisfactory. Study 3: The sensitivity and specificity for fall prediction in 642 inpatients were 80.0% and 74.8%, respectively. The mean time for completion of FRBA-Tool was 5.6 minutes. The utility of FRBA-tool was indicated by a qualitative data analysis showing that it allowed “expansion of perspectives on assessment” and “reconfirmation of the relationship between assessment and practice”.

Conclusion: FRBA-Tool has clinically useful sensitivity and specificity, and can be used for prediction of inpatient falls. The tool has advantages such as simplicity of completion, expansion of perspectives regarding fall risk assessment, and a continuous relationship between assessment and practice, which suggests that it will be a useful in clinical settings.