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[AP1-E2-2-01] Development of Home-Visit Nursing Record Template Contents

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Keywords: NANDA-I (North American Nursing Diagnosis-International), NIC (Nursing Interventions Classification), NOC (Nursing Outcome Classification), Standard Terminology for Nursing Observation and Action, Template Contents

Home-visit nurse often write down their records in free format. It makes difficult to share information with community healthcare institutions and provide objective evaluation of nursing practice. In this study, we developed a home-visit nursing record template contents for obtaining structured data in standardized nursing terminology (SNT). We conducted a medical records review of 60 case of 46 inpatients at Osaka University Hospital who were shifted to home-visit nursing after discharge, and collected the observation items passed on to home-visit nurse. One hundred and twenty five types of observation items were listed from medical records of target patients. The observation items were subjected to cluster analysis to classify them into effective recording unit. According to the classification, we created following 7 templates: “Immobility consequences, Pressure ulcer prevention/care”, “Drug reaction”, “Need blood glucose control”, “Lung-related symptoms”, “Post-operative”, “Chemotherapy”, “Fall prevention”.

Development of Home-Visit Nursing Record Template Contents

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Abstract

Home-visit nurses often write down their records in a free format. It makes it difficult to share information with community healthcare institutions and provide an objective evaluation of nursing practice. In this study, we developed contents for home-visit nursing record templates for obtaining structured data in standardized nursing terminology (SNT). We conducted a medical records review of 60 cases of 46 *inpatients at Osaka University Hospital who were shifted to home-visit nursing after being discharged and collected the observation items passed on to home-visit nurses. One hundred and twenty-five types of observation items were listed from the medical records of target patients. The observation items were subjected to cluster analysis to classify them into effective recording units. According to the classification, we created the following 7 templates: 'Immobility consequences, Pressure ulcer prevention/care,' 'Drug reaction,' 'Need blood glucose control,' 'Lung-related symptoms,' 'Post-operative,' 'Chemotherapy,' and 'Fall prevention.'*

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Introduction

In the practice of community health and welfare service in Japan, home-visit nursing is a system that provides nursing services at patients' homes under the direction of a primary doctor.

The home-visit nursing records consist of 4 types of records: a nursing plan, monthly report, patient profile (Record I), and daily record for each visit (Record II). Since these records are often described in free text format, it is difficult to share information within community healthcare and welfare services and to provide an objective evaluation of nursing practice. In order to solve these problems, it is necessary to build a system that can acquire nursing records described in the standardized nursing terminology (SNT) as structured data.

The use of SNT has many advantages for nurses. These include: better communication among nurses and other health care providers, increased visibility of nursing interventions, improved patient care, enhanced data collection to evaluate nursing care outcomes, greater adherence to standards of care, and facilitated assessment of nursing competency. There are many SNT in the world: NANDA-I (North American Nursing Diagnosis-International), NIC (Nursing Interventions Classification), and NOC (Nursing Outcome Classification) (together known as NNN), ICNP (Inter-national Classification for Nursing Practice), Omaha System, and so on [1].

One of the efficient ways to obtain structured and standardized data is to use templates whose contents were designed to write with SNT. The purpose of this study was to develop contents for home-visit nursing record templates using SNT.

Methods

Standardized nursing terminology (SNT)

For nursing diagnoses, nursing intervention, and nursing outcomes, we decided to use NNN, which is most widely used in Japan [2]. And for nursing observations, we used Standard Terminology for Nursing Observation and Action by the Ministry of Health, Labour and Welfare, Japan.

Analysis items

The key record in home-visiting nursing is the Record II in which daily nursing practices are described. Nursing plans and monthly reports are made by summarizing Record II. Therefore, we aimed to create template contents for Record II. It would be desirable to include the Record II described in the actual home care in the analysis, but it was difficult to obtain them due to the difficulty of anonymizing personal information. Therefore, we collected and analyzed nursing plans passed on to home-visit nurses for inpatients at Osaka University Hospital who were shifted to home-visit nursing after being discharged.

Medical record review

At Osaka University Hospital, when an inpatient shifts to home-visit nursing, a transfer summary is made for sharing nursing plans for home-visit nurses. The transfer summary is written by using NNN and Standard Terminology for Nursing Observation and Action. In order to clarify nursing plans for home care patients, we conducted a medical record review.

The subjects are 46 adult inpatients at Osaka University Hospital for whom a transfer summary had been created from April 1, 2017 to March 31, 2019. In some cases, the same patient was hospitalized and shifted to home-visit nursing multiple times during the above period. In such cases, the flow from one admission to home-visit nursing was set as one case because the patient's condition often changed with each admission. A total of 60 cases were included in this study.

We have surveyed age, sex, transfer destination, nursing diagnosis, nursing intervention, nursing outcomes, and observation items.

Cluster analysis of observation items

The observation items were subjected to cluster analysis to classify them into effective recording units. Nursing interventions and nursing outcomes were also added as variables for reference in labeling. A total of 127 variables were used, which were carried over to more than 2 cases (40 types of nursing interventions, 15 types of nursing outcomes, and 72 types of observation items).

SPSS 24.0 was used for statistical analysis.

Ethical considerations

This study was approved by the Ethics Committees of Osaka University Graduate School of Medicine in Japan (No.19297).

Results

Medical record review

Table 1 shows the results of the medical record review. The mean age of eligible patients was 66 years old, and 62% of the patients were female.

Multiple nursing diagnoses, nursing interventions, nursing outcomes, and observation items were planned for one patient. There were 16 types of nursing diagnoses, 66 types of nursing interventions, 36 types of nursing outcomes, and 125 types of observation items for 60 patients.

Table 1- Results of medical record review

n = 60	Mean, Quantity
Age, years [Interquartile range]	66 [48～75]
Sex　Female (%)	37 (62%)
Nursing diagnosis (NANDA-I)	16
Nursing interventions (NIC)	66
Nursing outcomes (NOC)	36
Observation items	125

Cluster analysis of observation items

Figure 1 shows the dendrogram of the cluster analysis. Observation items were divided into 7 clusters. For convenience, the 7 clusters are labeled A, B, C, D, E, F, and G from the top of the dendrogram. For the labeling of these 7 clusters, we referred to nursing interventions and nursing outcomes classified into the same cluster.

Seven observation items including constipation, patient's mood, skin moistening, reddened areas, skin condition, edema, dyspnea, and were classified into Cluster A. We labeled cluster A as 'Immobility consequences, Pressure ulcer prevention/care' because 'Immobility consequences' from nursing outcomes and 'Compression management,' 'Pressure ulcer care,' and 'Pressure ulcer management' from nursing interventions were classified into the cluster as the particularly representative words.

In the same way, we also labeled other clusters as follows: Cluster B as 'Drug reaction,' C as 'Need blood glucose control,' D as 'Lung-related symptoms,' E as 'Post-operative,' F as 'Chemotherapy,' and G as 'Fall prevention.'

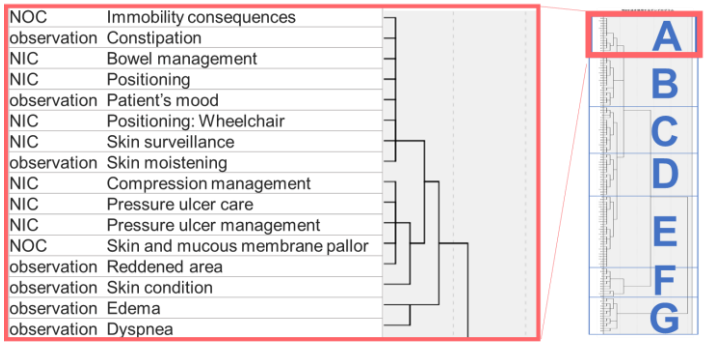

Figure 1- Results of cluster analysis

Discussion

In this study, we developed contents for home-visit nursing record templates for obtaining structured data with SNT.

The observation items passed from Osaka University Hospital to home-visit nursing can be classified into seven categories. The inclusion of nursing interventions and nursing outcomes in our cluster analysis was effective in confirming the validity of the classification and creating classification labels. Since observation items for similar patients' conditions are likely to be categorized into the same cluster, preparation of template content for each cluster would allow for efficient description of the nursing records.

In our method, the closeness of each observation item was calculated by cluster analysis and the items arranged linearly were classified. For this, there is a possibility that the items that should be observed over multiple categories may be classified into only one category.

Since we only investigated the nursing plans from Osaka University Hospital, the observations items that could be obtained may be limited to the patient conditions that require hospitalization. Moreover, nursing diagnosis, nursing intervention, and nursing outcomes could not be analyzed due to the small number of subjects. In order to create a template that will be useful in the home-visit nursing setting, the analysis should be performed using data from more facilities and more patients. In addition, the templates need to be improved with feedback from the home-visit nurses who actually used the templates.

Conclusion

By categorizing the observation items with cluster analysis, we could create home nursing templates that contain the items needed to be observed for patients with similar conditions.

References

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