Creating Vignettes for Measuring the Clinical Judgment of Nurses

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Abstract: The purpose of this study is to create vignettes to measure the clinical judgment of the nurses. 1) Vignettes were the scene to judgment the likelihood of physical restraints of nurses. 2) The Researchers extracted the factors that influence the judgment of physical restraints from clinical experience and literature review. And, three researchers were selected temporary variables. 3) Temporary variables were [Diagnosis], [Gender], [Age], [Affect], [Time of Day], [Clinical Symptoms], [Prediction], and [Policy of the Hospital]. 4) The researchers had created templates for the vignette in eight temporary variables. The researchers conducted a pre-test for the purpose of examination of content validity and selection of final variables. Variables were [Clinical Symptoms] 55.2%, [Prediction] 22.3%, [Diagnosis] 10.2%, and the remaining variables (such as age and sex of the patient) were few answers. As a result, [Diagnosis], [Clinical symptoms], [prediction] were selected, 36 vignettes had completed the final variables of three.

Keywords: Clinical Judgment, Vignette, Nurses

1. Introduction

Clinical psychiatric nursing is full of uncertainty. The reason is that the psychiatric nurses have intervened in the heart of the patient itself. In addition, the clinical psychiatric nursing is because there are situations in which questions and responses are hardly satisfied [1]. In other words, the characteristics of psychiatric nursing are a choice and a variety of response of nurses in situations filled with uncertainty. It would be clinical judgment of psychiatric nurses.

Structures and processes of clinical judgment of nurses are becoming apparent in the studies [2~6]. However, in research on the clinical judgment of nurses, nurses feel the ethical dilemma in many cases. Because, method of study is for qualitative analysis and interview survey in many cases [7]. In addition, subjects affected by the presence of the researchers, do not say the truth, and sometimes meaningful contents cannot be extracted from the subjects.

Therefore, the present study focused on vignette study. A vignette is a card such as person or situation was described. And a method for obtaining an answer of the subjects from a card that is presented. That is, vignette study is defined as a method of obtaining an answer by creating vignettes of various patterns in advance, and presents a vignette in subjects [8].

Vignette study still few in Japan [7~11]. However, in other countries, research question research on medical education, decisions about mental illness and chronic diseases, such as widely used [11~16].

Advantage of the vignette study is that ethical dilemmas are less for response to a questionnaire. Minimization of the dilemma leads to protection of privacy. And, vignette study is valid as a research method for extracting the decision-making and opinion of the subject [7, 8, 19].

The purpose of this study is to create vignettes about judgment the likelihood of physical restraints of nurses, in order to clarify the trend of clinical judgment of the psychiatric nurses finally. Literature focused on the trend of clinical judgment so far cannot be found. This study to
clarify the trend of clinical judgment of nurses leads to an understanding of the knowledge and skills of nurses themselves. In addition, to increase the predictability of the nurse to know the tendency of judgment leads to reduce the risk in clinical.

2. Method

2.1 Set the Scene in Vignette
The most important thing is a set of variables and the scene in the vignette study [8]. This study was to set the scene to judge the likelihood of physical restraints of nurses. The reason is that it is a therapeutic action of specific clinical psychiatry and because it may have done even nurse of various departments for the purpose to protect the safety of the patient [7, 20].

2.2 Set the Variable of Vignette
Variables were set in three steps; 1) Extraction of the factors influencing likelihood of physical restraints, 2) Vignettes create for the pre-test, selection of scenes and temporary variables, and 3) Modification and variable selection of vignettes.

2.2.1 STEP1
Extraction of the Factors Influencing Likelihood of Physical Restraints
Literature review was using the Japan Medical Abstracts Society. Subject of physical restraints was referring to the criteria Minister of Health and Welfare and Mental Health and Welfare Law. Search keywords use ‘excited’, ‘delirium’, ‘violence’, ‘self-inflicted’, and ‘falls’. In addition, five keywords crossed the ‘physical restraints’, select the original articles. Five keywords were set based on the “guideline for restraint and seclusion” and clinical experience of the researchers [21]. The literatures for the analysis, three researchers choose the paper that target adult patients who were published in 2012-2007.

Three researchers extracted the factors that affect the likelihood of physical restraints of nurses from nursing literatures and psychiatric nursing clinical experience. In addition, consolidation and classification of the factors was referring to the KJ method [22].

2.2.2 STEP2
Vignettes Create for the Pre-test, Selection of Scenes and Temporary Variables
Vignettes for the pre-test creates modeled on the research that has been reported. As temporary variables of the vignette, the present study uses the 'factors influencing likelihood of physical restraints'.

Subjects of the pre-test were clinical nurses, nursing faculties, and nursing students. Also, these vignettes were to verify the validity of the content by three researchers.

The subjects were presented the two vignettes that were created for the pre-test. ‘What is your judgment of the likelihood of physical restraint in this situation?’ is the question of the vignette. Likelihood of physical restraints of nurses are valued in 9-point scale (1 (not at all) to 9 (absolutely)). And, Participants answered the factors most influential in the judged.

Pre-test was provided with a free description field on the structure and content of the vignette. Questionnaire of this study were collected by mail.

2.2.3 STEP3
Modification and Variable Selection of Vignettes
For the purpose of selection of variables, to aggregate the variables that affected the judgment of the subject. Then, variables that control the value of certain variables and it is not shown in the vignette was determined.

3. Ethical considerations
The researchers explained that in writing the protection of privacy and the purpose and method of research. Authorization to collect the data from the study participants were allowed by the ethics review committee of the education agency that enrolled researchers.

4. Results

4.1 Extraction of the “Factors Influencing Likelihood of Physical Restraints”
The researchers extracted the factors that affect the likelihood of physical restraints based on the literature review and clinical experience. The results of the literature search was 67, papers dealing with adult hospitalized patients was 60. Literature was searched on March 1, 2012.

Three of the researchers were categorized based on the similarity of the factors affecting the determination of the physical restraint. Factors that affect the judgment of the
physical restraints was {Diagnosis}, {Patient Gender}, {Patient Age}, {Patient Affect}, {Time of Day}, {Clinical symptoms}, {Prediction}, and {Policy of the Hospital} (Figure 1). Eight factors became the temporary variables of the vignette. The researchers were set the content and type of temporary variables (See Table 1).

4.2 Creating Vignettes for the Pre-test

First vignette was created based on the template of previous research [21, 23]. However, it has become a complex vignette of $2,592(3\times2\times2\times3\times4\times3\times2)$ by using the temporary variables of all. Further, the scene difficult to understand occurs, participants cannot be judged properly. Then was determined the variables that are not shown in the vignette and the variables of a constant value (See Figure 2).

4.3 Examination of Content Validity of the Vignettes

Nurses who understood the purpose of this study was to evaluate the two vignettes. The researchers conducted a survey about the structure and content of the vignettes [24]. Subjects of the pre-test were clinical nurses (n=42), nursing faculties (n=20), and nursing students (n=35).

Psychiatric clinical nurses of 28 were included in the clinical nurses of 42. Mean ($\pm SD$) age of clinical nurses is 41.6 ($\pm 8.7$) years old. Female was 27. Mean years of clinical experience of clinical nurses were 15.2 ($\pm 7.6$) years. Mean age of nursing faculties were 43.1 ($\pm 7.8$) years old. Female was 19. Mean years of clinical experience of nursing faculties were 12.2 ($\pm 5.5$) years. Students of 36 had enrolled in the senior class in nursing school. Nursing students learned already psychiatric disorders and nursing skills of mental health. Mean age of nursing students were 20.0 ($\pm 1.6$) years old. Female was 31.

Participants answered the one factor most influential to the decision from the eight temporary variables (: Diagnosis, Gender, Age, Affect, Time of Day, Clinical symptoms, Prediction, and Policy of the Hospital). Factors were calculated sum of each participants and total (See Table 2). {Clinical Symptoms} (55.2%), {Prediction} (22.3%), and {Diagnosis} (10.2%) were factors that affected the judgment of the participants. And the remaining variables (such as age and sex of the patient) were few answers. In addition, participants responded to the vignette of the pre-test (: I am the complexity and the vignette of a lot, I need sedation than restraint in this vignette, Why is the meaning of “Not at all” is “1”).

Then, three researchers were to examine the content validity for the configuration and the process of creating vignette. Variable content, the process of creating vignette, and temporary variables was determined to be generally appropriate by the expert. However, there was a need to minimize variables of vignettes.

4.4 Select of Variables, and Modification of Vignettes

The final variables were determined by content validity and expert result of the pre-test. New variables were {Diagnostics}, {Clinical Symptoms}, and {Prediction}. Then, in order to avoid a situation unrealistic due to a combination of variables, other variables were set at a constant value or not written. Skills and nursing intervention were fixed in order to avoid bias by empirical
knowledge and the subjectivity of the subjects. Furthermore, determination range was set to 0-8. Because Participants was may be judgment as "do not need (Not at all)". In other words, 36(3x4x3) vignettes were completed (See Figure3).

### Table1. The content and type of eight temporary variables

<table>
<thead>
<tr>
<th>Temporary variables</th>
<th>Type</th>
<th>Contents of Type</th>
<th>Rationale (based on the clinical experience of researchers and literature review)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnosis</td>
<td>3</td>
<td>1) Dementia, 2) Delirium, 3) Schizophrenia</td>
<td>Associated with falls, delirium and restraint.</td>
</tr>
<tr>
<td>Gender</td>
<td>2</td>
<td>1) Male, 2) Female</td>
<td>Male had higher rates of restraint.</td>
</tr>
<tr>
<td>Age</td>
<td>2</td>
<td>1) 60years old, 2) 80years old</td>
<td>Older age associated with restraint.</td>
</tr>
<tr>
<td>Affect</td>
<td>3</td>
<td>1) Slender, 2) Large build, 3) Standard</td>
<td>Affect may be associated with decision to use restraint.</td>
</tr>
<tr>
<td>Time of Day</td>
<td>3</td>
<td>1) 3:00AM, 2) 10:00AM, 3) 8:00PM</td>
<td>Time of day may be associated with staffing resources.</td>
</tr>
<tr>
<td>Clinical symptoms</td>
<td>4</td>
<td>1) Insomnia, 2) Unintelligible behavior reject (Drug and Meal), 3) Catheterization or drain insertion, 4) Incoherent speech and/or behavior</td>
<td>These symptoms associated with delirium, falls, violence, and restraint.</td>
</tr>
<tr>
<td>Prediction</td>
<td>3</td>
<td>1) Verbal abuse and violence, 2) Falls, 3) Removal of the tube</td>
<td>Prediction was related to the safety management and risk avoidance.</td>
</tr>
<tr>
<td>Policy of the Hospital</td>
<td>2</td>
<td>1) Don’t do absolutely restraint, 2) Can use restraint if necessary</td>
<td>Policy of the hospital may be associated to decision of the nurses.</td>
</tr>
</tbody>
</table>

### Table2. Factors that influence the most likelihood of physical restraints

<table>
<thead>
<tr>
<th>Temporary variables</th>
<th>NS N=42 (%)</th>
<th>FC N=20 (%)</th>
<th>ST N=36 (%)</th>
<th>Total N=98 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnosis</td>
<td>3(7)</td>
<td>2(10)</td>
<td>5(14)</td>
<td>10(10.2)</td>
</tr>
<tr>
<td>Gender</td>
<td>1(3)</td>
<td>1(1.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>2(5)</td>
<td>2(2.1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affect</td>
<td>3(7)</td>
<td></td>
<td></td>
<td>3(3.0)</td>
</tr>
<tr>
<td>Time of Day</td>
<td>1(2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cl-Symptoms</td>
<td>23(54)</td>
<td>15(75)</td>
<td>17(57)</td>
<td>55(55.5)</td>
</tr>
<tr>
<td>Prediction</td>
<td>9(21)</td>
<td>3(15)</td>
<td>10(28)</td>
<td>22(22.3)</td>
</tr>
<tr>
<td>Policy of hp</td>
<td>3(7)</td>
<td></td>
<td></td>
<td>3(3.0)</td>
</tr>
</tbody>
</table>

Cl: Clinical, hp: the Hospital, NS: Clinical nurses, FC: Nursing faculties, ST: Nursing students

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You are nurses who work in the ward.
60-year-old man has been hospitalized. He is followed by insomnia a few days. His Medical diagnosis is dementia.
As a result of observing him to predict the risk of falling from the bed. You intervened for him. However, the risk with your prediction does not change.

What is the likelihood you physical restraints in this situation?

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all</td>
<td>Absolutely</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

What is the likelihood you sedation in this situation?

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all</td>
<td>Absolutely</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

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5. Discussion
Researchers examined the factors affecting the decision of physical restraints on the basis of clinical experience and literature. Eight temporary variables were extracted and two vignettes were created. The researchers conducted a pre-test for the purpose of selection of variables and content validity of the vignette. And, three variables were selected. In addition to the physical restraints of the dependent variable, need for additional sedation drug responses from the subject of the pre-test were suggested. In other words, no need for physical restraints, but the subject has determined sedation drug is required. It was considered a variable that is directed to the study of the future, able to illustrate the trend of clinical judgment of nurses. On the other hand, more than one vignette of questionnaire is difficult to see the difference between variable. For the cause of causing a decrease in the response rate, modification of the vignette was required.

Vignette that is created can measure the trend of judgment on physical restraint of clinical nurses based on medical diagnosis, Symptoms, and Predictions of nurses. Because 36 vignettes was capable of measuring the three factors of each. Then, it is possible to clarify the relationship between factors and trend of
clinical judgment of nurses by making a comparative study of each factor. In addition, factors and trends of clinical judgment will become apparent by measuring the psychological measure. In the future, trends and features of the judgment of the psychiatric nurse would need to be compared with judgment of nurse in general surgery or internal medicine.

However, clinical judgment of nurses that can be measured in this study is only the likelihood of restraint and sedation. The future issue is to validate a method for measuring the clinical judgment of the other.

6. Conclusion
Likelihood of physical restraints of the nurses was determined based on the medical diagnosis of patients, Clinical symptoms, and Prediction. In addition, 36 vignettes were created based on the factor of three.

In the future, we will conduct a cross-sectional survey creation and questionnaire with 36 vignettes. Additionally, in order to clarify the trend of clinical judgment of the psychiatric nurse, comparison of the clinical nurse of the general hospital is required.

Acknowledgments

Author Contributions
S. Ishii: study concept and design, acquisition of data, analysis and interpretation of data, preparation of manuscript. F.Nakashima, S.Umezaki: collection, interpretation, and analysis of data.

Sponsor’s Role
There were no sponsors for this article.

References
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