

## Nurses' Perceptions of Restraint

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**Key Words :**  
restraint  
perception  
standard

### ABSTRACT

**Background:** Restraint had been a taboo for a long time in Japan, and it is difficult to describe the nurses' perceptions of restraint. We do not have enough research in restraint usage.

**Objectives:** The purpose of this study is to identify nurses' perceptions of restraint.

**Methods:** The subjects consisted of 827 nurses who worked at hospitals in 3 prefectures of the Kyushu district in Japan. This study utilized the Perception of Restraint Use Questionnaire (PRUQ) scale.

**Results:**

- 1) 50% of the nurses recognized that verbalization and medication may be used as restraint, but lacked knowledge about the dangers associated with restraint use.
- 2) Nurses' perceptions of restraint were influenced by education, the practice setting, and organization policy.
- 3) 58% of the nurses considered a standard of restraint to be necessary, however, most of the hospitals did not have a standard policy of restraint and lacked education concerning the ethical issues inherent in the use of restraint.

**Conclusions:** Nurses were confused about the usage of restraint because of the many types for restraints. These findings suggest that it is essential for hospitals and health care facilities to establish their restraint policies for safety and human rights. Educations related to the dangers of restraint, protocols for proper restraint use, research the development of strategies and effective alternatives to restraint as well as management is essential.

### I. Introduction

Patient restraint is currently used for safety and medical necessity, according to the nurse's judgment<sup>1-3)</sup>. Only the Mental Health Act, implemented in 1988, regulates physical restraint and isolation. There is no legal regulation for the restraint of patients without psychiatric disorders. Restraint became a social problem after a death from suffocation due to vomitus in 1998 revealed the fact that patient restraint was being implemented, which led to the consideration of patients' human rights and questions about the medical management structure. Some nursing directors and physicians called for the abolition of the use of restraint in what is known as the "Fukuoka declaration on abolition of restraint"<sup>4-6)</sup>. Meanwhile the Ministry of Health, Labour and Welfare determined that restraint would be prohibited in principle in medical facilities where the long-term care insurance system, created in 2000, is applied, which includes geriatric hospitals and health centers for the elderly that have nursing home-type units<sup>7)</sup>.

For many years in the U.S., it has been recognized that "restraint was necessary." However, since adverse effects of restraint were found, it is said that the perception of nursing staff changed to thinking "restraint is not necessarily necessary but rather a danger"<sup>8-11)</sup>. It is recognized that restraint includes not only restraint with drugs, but also includes isolation and environments in which one side of a bed is attached to a wall. In addition, legislation on restraint was enacted and there is a tendency to give patients' human rights more respect<sup>12, 13)</sup>. Currently, the term "restraint" has been replaced with "protective device" and nursing staff in the U.S. provide nursing care according to standards of restraint to prevent the unreasonable violation of patient's rights<sup>14)</sup>. They constantly evaluate the use of restraint and continuously

review problematic aspects to improve quality.

In Japan, most studies on restraint focus on the innovation of restraint techniques and physical restraining devices. Therefore, the actual state of restraint is unknown. There is only an awareness survey by Nagahama stating that 75% of nursing staff consider restraint to be necessary<sup>15)</sup>. Furthermore, there is still a strong image of restraint as binding patients' limbs with a restraining band<sup>2), 12), 16), 37)</sup>. In clinical nursing, restraint is seen as equal to restriction<sup>35)</sup>, restraining clothing, and jumpsuits<sup>41)</sup>, and thus, restriction is generally used as if it is almost synonymous with restraint<sup>41)</sup>. Furthermore, there is nothing in the literature to clearly define the difference between restriction and restraint. However, considering that one study described restraint as forcing a patient to maintain a certain posture or position with restraining bands in order to avoid various risks<sup>41)</sup>, it can be regarded that restraint is a means to accomplish something. On the other hand, another study describes restriction as restricting freedom of actions in a certain place, or for a certain time period<sup>42)</sup>. It is thought that restriction can be considered as a wider concept than restraint, and the result of using a means of restraint is restriction. There seems to be some differences between restraint and restriction. In the current conditions, what nursing staff regard as restraint, other than binding, is not yet clear, nor is their awareness of the importance of restraint. It is predicted that the enforcement of the law to prohibit restraint in principle in April 2000 may have confused the nurses' judgment in the implementation of restraint. In addition, research on restraint has lagged and there is a need to establish standards of restraint as a basis for judging its use<sup>16-17), 12)</sup>. At present, amid changes in medical trends regarding restraint, analyzing and discussing the perceptions of nursing staff who care for patients directly may be significant to establish standards of restraint that will be introduced in the future.

This study aims to determine the perception of nursing staff regarding patient restraint according to the following two questions, and to identify issues that may be required when standards of restraint are introduced.

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1. What do nursing staff regard as restraint other than binding?
2. What factors influence the perception of nursing staff regarding the importance of restraint?

For the items mentioned above, the terminology was operationally defined as follows:

Restraint: restriction of patient's actions to inhibit movement using a cord, belt, bed sheet, or restraining band.

Perception regarding the importance of restraint: the nursing staff considers restraint to be effective and important.

Abolition of restraint: the policy of abolishing restraint by the nursing profession based on the "Fukuoka declaration on abolition of restraint,"<sup>18)</sup> proposed in October 1998.

The Fukuoka declaration on the abolition of restraint consists of the following five clauses: 1. Decide and implement the termination of binding and restraint; 2. Consider what restraint is; 3. Implement hospital transparency to facilitate the abolition of restraint; 4. Bring the frequency of restraint close to zero; 5. Expand the campaign to abolish restraint throughout the whole country.

Standard of restraint: assessment of the judgments or basis used when restraint is implemented, through continuous observation methods, instructions by the physician, and limitations, which are clearly documented.

Geriatric ward: wards for the elderly and patients with dementia. A ward in a geriatric hospital in which certain standards are established according to the regulations published by the Ministry of Health, Labour and Welfare<sup>38)</sup>.

## II. Methods

### 1. Study design

Research study using a self-report questionnaire

### 2. Study Subjects

The subjects were nursing staff (nurses and assistant nurses, hereinafter referred to as nursing staff) who work in a hospital with at least the mean bed capacity of all the hospitals in Japan<sup>19)</sup>. The Kyushu district, where abolition of restraint was first implemented with local cooperation in Japan, was chosen for this research study. Finally, 827 nursing staff who worked in one of 12 hospitals within three prefectures in Kyushu were included in this study.

### 3. Measurement tools

A questionnaire was used to measure the following items besides attributes: education about restraint, standards of restraint, presence or absence of abolition of restraint, restraint other than binding (open ended question), measurement of nursing staff's perception regarding patient restraint. To measure the nursing staff's perception of patient restraint, we used the Perception of Restraint Use Questionnaire (PRUQ), which was developed by Strumpf and Evans in the U.S. in 1988 to determine the perception of nursing staff regarding the use of physical restraining devices. The questionnaire by Strumpf and Evans includes items related to medical procedures such as catheter removal. Thomas used it to describe restraint in acute nursing care<sup>20)</sup>. In our study, we used the PRUQ scale used by Bradley, which was based on the questionnaire developed by Strumpf and

Evans.<sup>21)</sup> The question items were partially revised to adapt them to actual nursing care in Japan based on the results of the pre-interview and the preliminary survey.

### (1) Reliability and validity of the PRUQ

The PRUQ is a questionnaire consisting of nine items to measure the perception of nursing staff regarding restraint. Responses are given on a three-point rating scale ranging from 1 (not important) to 3 (most important). High scores indicate that the nursing staff held a high level of belief in the safety and effectiveness of using physical restraint. Strumpf demonstrated that the reliability of the questionnaire was 0.80<sup>9)</sup>. Later, the rating scale of the PRUQ was revised to a five-point scale ranging from 1 (not important at all) to 5 (most important) and the number of questions was revised to 17 items. According to Kolanowski, the reliability of the revised PRUQ was 0.94<sup>22)</sup>. Thomas verified the face validity and content validity of the PRUQ<sup>20)</sup>. The reliability and validity of the PRUQ were verified as described above.

### (2) Process of using the PRUQ in this study

A semi-structured interview regarding restraint was conducted with the nursing staff to understand whether the 17 items of the existing PRUQ scale were actually suitable for nursing care in Japan. In comparing the results of the semi-structured interview with the 17 items of the PRUQ, all the nursing staff responded that for items related to stealing, entering into dangerous places, being restless and not following instructions, causing trouble, and unstable gait that "when a patient performed only the action described in that item, we have never implemented restraint; it is inappropriate for nursing care in Japan." Therefore, these items were excluded. In our study, the questionnaire consisted of 11 items with a 5-point rating scale ranging from 1 (not important at all) to 5 (most important). The score range was 11 to 55 points. High scores indicate that the nursing staff held a high level of belief in the safety and effectiveness of restraint.

### 4. Preliminary survey

A preliminary survey was conducted with 20 nursing staff over six days from June 26 to July 1, 1999. Cronbach's  $\alpha$  for the PRUQ was 0.92 in this study. In the preliminary survey, difficult aspects in the text of the questions were revealed. For these questions, the questionnaire was revised by describing the sentences concretely and adding explanatory notes. Cronbach's  $\alpha$  after revision was 0.89.

### 5. Procedure and method of the survey

#### (1) Study period

July 19, 1999 to August 12, 1999.

#### (2) Data collection procedure

From the beginning of June to the end of July 1999, we mailed a document including the purpose and intention of this study to each senior nursing officer in the 12 selected hospitals. The questionnaires were collected as bundles or

by mail.

(3) Ethical considerations

The purpose of the study and the way that the results would be used were described in the questionnaire. It was an anonymous survey. An explanation was given indicating that the results would be used only for statistical processing so subjects' privacy would be protected. The subjects who returned the completed questionnaire were considered to have provided consent for participation in this study.

6. Data analysis method

The SPSS version 9.0 was used for the data analysis. The level of significance of the statistical test was set at  $p \leq .05$ .

(1) The means of restraint other than binding, and opinions on restraint were classified by content.

(2) For perception of the importance of restraint, a t test was performed on the presence or absence of education on abolition of restraint, or on the presence of absence of restraint. One-way analyses of variance and multiple comparisons were conducted according to workplace to which the subjects belonged.

(3) A chi-square test was conducted between the following items: necessity of standards of restraint; department to which each subject belonged; and job type.

III. Results

1. Collection rate of the questionnaire

We distributed 827 questionnaires and collected 730 (collection rate of 88.2%). Valid responses were obtained from 706 respondents (valid response rate of 96.7%). For the 24 questionnaires that were considered to be invalid, 10 were completed by someone besides the subject, 10 were blank, and four had at least one incomplete page.

2. Subject background

The mean age and mean years of clinical experience of the subjects are presented in Table 1. The highest percentage, according to the department to which each subject belonged, was internal medicine (28%), followed by geriatrics (24%), and surgical medicine (23%); no nursing staff working in psychiatry departments was included. In four out of 12 hospitals, restraint had been abolished. Of the 706 nursing staff, 120 (17%) belonged to a hospital where restraint has been abolished [Figure 1-1 to Figure 1-3].

3. Actual state of restraint

(1) Implementation of restraint

The number of nursing staff who responded that they experienced the implementation of restraint was 667 (94.5%). Thirty-seven nursing staff had never experienced the implementation of restraint (5.2%). Of the 189 assistant nurses, nine had not experienced the implementation of restraint.

Table 1. Subject background

	Frequency (%)	Mean age $\pm$ SD (range) Years	Mean years of clinical experience $\pm$ SD (range) Years
Nurse	514 (73.0)	32.5 $\pm$ 9.5 (20-67)	10.1 $\pm$ 8.1 (10.2-40.0)
Assistant nurse	190 (27.0)	36.5 $\pm$ 11.4 (19-62)	13.2 $\pm$ 10.3 (0.2-43.0)
Total	704 (100)	33.6 $\pm$ 10.2 (19-67)	11.0 $\pm$ 8.8 (0.2-43.0)

\*Two incomplete response sheets were excluded; SD: Standard Deviation

Whether restraint is abolished or not

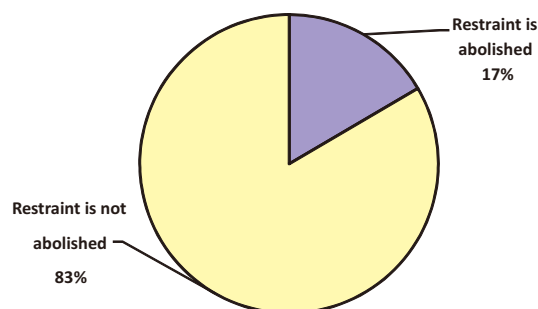


Figure 1-1. Subject background (N = 706)

Job types

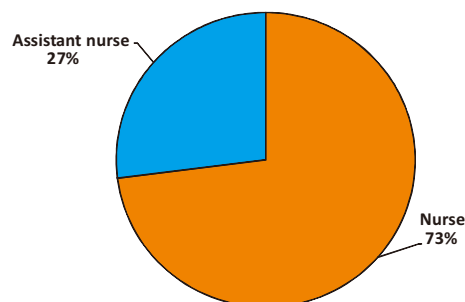


Figure 1-2. Subject background (N = 704)

Workplace of subjects

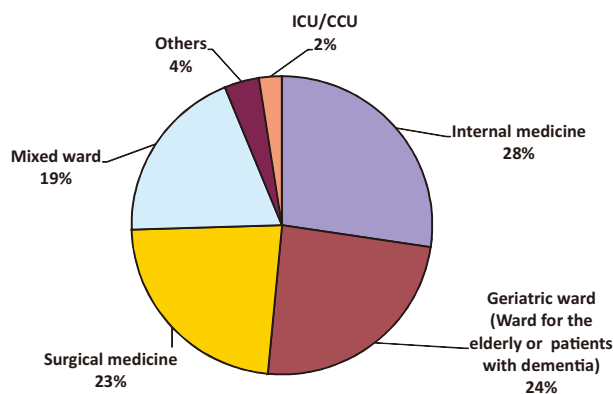


Figure 1-3. Subject background (N = 706)

(2) Postgraduate education regarding restraint

Postgraduate education regarding restraint was provided to 256 nursing staff (36.3%) in a clinical setting, lecture, or training, while 447 nursing staff (63.3%) did not receive this type of education.

(3) Presence and necessity of standards of restraint

There were no standards of restraint in 12 hospitals (including four hospitals where restraint had been abolished). The number of nursing staff who recognized that standards of restraint were required was 401 (58%); 194 nursing staff (28%) responded that they did not know; 100 nursing staff (14%) thought that standards of restraint were not required [Figure 2]. Concerning the presence or absence of abolition of restraint, 110 nursing staff (72%) who worked in a hospital where restraint had been abolished recognized that standards of restraint were required; 291 nursing staff (53%) who worked in a hospital where restraint had not been abolished recognized that standards of restraint were required. The nursing staff who worked in a hospital where abolition of restraint was implemented tended to recognize that standards of restraint were required.

$$\chi^2 = 48.456; d.f. = 2; p < 0.05$$

(4) Association between necessity of standards of restraint and department to which each subject belonged

Of the 164 nursing staff working in geriatric wards, 122 nursing staff (74%) responded that standards of restraint were required. There was an association between the necessity of standards of restraint and the department to which each subject belonged. The nursing staff who worked in geriatric wards were more likely to recognize that standards of restraint were required.

$$\chi^2 = 30.7; d.f. = 6; p < 0.05$$

(5) Association between necessity of standards of restraint and job type

Of the 507 nurses, 277 recognized that standards of restraint were required (55%); 156 nurses (30%) responded that they did not know; and 74 nurses (15%) thought that standards of restraint were not required. Of the 186 assistant nurses, 123 recognized that standards of restraint were required (66%); 37 assistant nurses (20%) responded that they did not know; and 26 nurses (14%) thought that standards of restraint were not required. The assistant nurses were more likely than nurses to think that standards of restraint were required. There was an association between job type and the necessity of standards of restraint.

$$\chi^2 = 8.93; d.f. = 2; p < 0.05$$

4. Means of restraint other than binding

Of all the nursing staff, 346 (50%) responded that there were means of restraint other than binding [Figure 3]. In the hospitals where abolition of restraint had not been implemented, 27 nursing staff (32%) responded that they did not know whether there were means of restraint other than binding. The means of restraint other than binding: verbal reprimand sedative/sleeping pill beyond the necessary

**Necessity of standards of restraint**

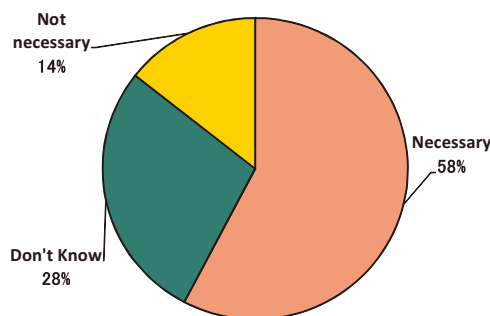


Figure 2. Necessity of standards of restraint (N = 706)

**Whether there are means of restraint other than "binding"**

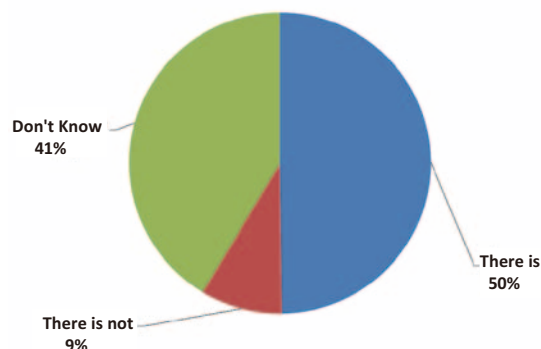


Figure 3. Presence or absence of restraint other than binding (N = 706)

**Means of restraint other than "binding"**

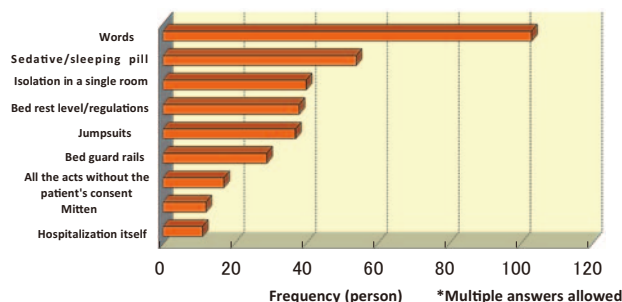


Figure 4. Detailed means of restraint other than "binding"

quantity, and isolation in a single room, were mentioned by 103 (29.0%), 54 (16.0%), and 40 staff (12.0%), respectively [Figure 4].

5. Perception of the importance of restraint

Of the 11 PRUQ items (measuring the perception of the importance of restraint), the items indicating the most common reasons that nursing staff considered restraint to be important were those concerning the prevention of self-removal of intubation tubes, feeding tubes, and infusion tubes. There were differences in the nursing staff's perception of the importance of restraint according to the presence or absence of abolition of restraint, the presence or absence of postgraduate education concerning restraint, and the

department to which each subject belonged.

#### (1) Abolition of restraint and the PRUQ

The mean PRUQ score for nursing staff at hospitals that abolished restraint was 28.6 ( $\pm 6.8$ ), while the mean score for nursing staff at hospitals that did not abolish restraint was 36.4 ( $\pm 7.8$ ). Thus, when compared with the scores of nursing staff at hospitals that abolished restraint, the PRUQ score of the nursing staff at hospitals that did not abolish restraint was significantly higher. In other words, the nursing staff's perception of the importance of restraint tended to be lower in hospitals in which restraint has not been abolished organizationally.

t value = 13.83;  $p < .5$

#### (2) Region and the PRUQ

The mean PRUQ score for the nursing staff in the region where restraint had been abolished was 27.8 ( $\pm 7.5$ ) while the score for the nursing staff in the region where restraint had not been abolished was 34.9 ( $\pm 7.3$ ). Compared with the nursing staff in the region where restraint has been abolished, the PRUQ score was significantly higher for the nursing staff in the region where restraint has not been abolished. In other words, nursing staff's perception of the importance of restraint tended to be lower than the region where restraint had not been abolished.

t value = -9.27;  $p < 0.05$

#### (3) Postgraduate education concerning restraint and the PRUQ

The mean PRUQ score for nursing staff who received postgraduate education concerning restraint was 31.2 ( $\pm 8.1$ ) while the score for nursing staff who did not receive any postgraduate education about restraint was 35.1 ( $\pm 7.2$ ). When compared with nursing staff who received postgraduate education about restraint, the PRUQ score was significantly higher for nursing staff who did not receive postgraduate education about restraint. In other words, the nursing staff's perception of the importance of restraint tended to be lower for nursing staff who did not receive postgraduate education about restraint.

t value = 6.199;  $p < 0.05$

#### (4) Subjects' department and the PRUQ

According to each subject's department, the PRUQ score for those who worked in the ICU/CCU was high at 40.1 ( $\pm 5.1$ ), while the score for those who worked in geriatric wards tended to be low at 29.6 ( $\pm 7.1$ ). There were significant differences in the PRUQ scores by the department to which each subject belonged. In other words, the nursing staff's perception of the importance of restraint varied depending on their department.

f value = 23.6; d.f. = 5;  $p < 0.05$

There were differences between scores for those who worked in geriatric wards and those who worked in all the other departments.

## 6. Opinions on restraint

Opinions were obtained from 74 of the 706 subjects (completion rate of 14%; multiple answers allowed). First, the most frequent opinion (13 subjects) concerned a shortage of nursing staff, based on the opinion that restraint was unavoidable due to understaffing; however, they did not perform restraint when a family or staff member was there. Second, the next most common opinion revealed the increased stress of nursing staff caused by restraint (six subjects); in particular, patients exhibited resistance when restraint was implemented; there was anxiety regarding whether an accident could be prevented without restraint; there were many cases where restraint had been implemented without careful consideration; and the nursing staff would be held responsible for patients if there was an accident. Third, the opinions indicated that restraint was associated with increased nursing duties (four subjects); in particular, in some cases restraint was implemented because the quantity of nursing duties had increased, not as a result of concern for patient safety; restraint was indispensable to complete duties during the night shift; and nursing staff tended to use restraint easily because they could attend only to one patient. Fourth, it was demonstrated that there were differences among the nursing staff's perception of restraint (four subjects); in particular, there were many cases where restraint was implemented for nurse-centered reasons; and restraint varied according to each nurse's judgment. Fifth, defects in the environment and facilities were indicated (four subjects); in particular, insufficient ward space and facilities. In most of the responses, one of the purposes of restraint was for "patient security." In addition, there was an opinion that "there was anxiety whether an accident could be prevented without restraint; and there were many cases that restraint has been implemented without careful consideration." There were also comments focusing on education: "education related to ethical aspects is necessary for health care professionals; and education to put oneself in the position of the patient or the patient's family is important." There were some comments regarding the abolition of restraint as follows: "a large work environment, a sufficient number of staff, and an understanding of family and physicians are required conditions. When restraint is implemented without consideration for accident and risk, securing able personnel, or maintenance of the ward environment, nurses can suffer from neurosis." As stated in another opinion, "through abolishing restraint, I noticed that restraint was not necessarily important and that restraint might be avoided with ingenuity."

## IV. Discussion

1. Factors that influence the nursing staff's perception of the importance of restraint: Management, education, and department

Abolition of restraint was initiated in cooperation with some regions of the Kyushu district when the nursing staff's distress or desire to reconsider the use of restraint in clinical practice for geriatric medicine, such as caring for the elderly with dementia, coincided with the leaders' decision that a hospital administrator would take responsibility for issues resulting from the abolition of restraint. In the

background, there seemed to be an aim that a reconsideration of the conventional perception of restraint may lead to an improvement in the quality of care. External evaluation was introduced as a part of information disclosure for users who choose a hospital or institution, and improvement in the quality of continuous care was targeted. These efforts seemed to be an approach to the future practice of medicine. Since this practice is spreading to various places, the Kyushu district was chosen as the target area of this study. The collection rate was high at 88%, which seemed to demonstrate a high level of nursing staff interest, as restraint has attracted the attention of society. Though the targeted hospitals included general hospitals with a psychiatry department, there was no response from any nursing staff working in a psychiatry department. These results seem to indicate that restraint has attracted the public's attention, but may still be considered taboo in some areas of medical care. In this situation, the nursing staff's perception of restraint was compared from a managerial perspective between regions that have a framework to abolish restraint and regions where restraint had not been abolished. Regions where restraint had been abolished tended to regard restraint as less important than regions where restraint had not been abolished. Nursing staff who had abolished restraint had a higher perception of the importance of restraint than nursing staff who had not abolished restraint. One opinion expressed that "I noticed that restraint might be avoidable with ingenuity." Thus, abolition of restraint results in an opportunity to promote the acquisition of knowledge regarding behavior modification and the definition of restraint. In addition, by considering alternative methods to restraint, the subjects have learned that restraint alone might not always be effective. The importance of supervisors, such as hospital directors and senior nursing officers, deciding to abolish restraint has also been reported<sup>30)</sup>. This study revealed that nursing staff experienced stress in situations where the abolition of restraint was implemented, but where the hospital environment was not improved and there was no increase in the number of nursing staff.

The policy of abolition of restraint can be regarded more highly in situations where the hospital organization itself has no policy or measures for restraint. However, it seems that top-down abolition of restraint is not the only means to change the perception of nursing staff. Participation of all staff in workshops facilitated educational effects on restraint<sup>31)</sup>. Moreover, multiple conditions are required to abolish restraint, including cooperation of hospital administration, clarification of policy, and enforcement of continuing education<sup>32)</sup>. Although the effort to abolish restraint, as a single policy, is an opportunity to change the perception of nursing staff, it is also thought to be a managerial problem, considering labor, institutional, and educational environments.

Our study indicated that the nursing staff who received postgraduate education regarding restraint have more knowledge and a higher perception of the importance of restraint than nursing staff who did not receive postgraduate education. However, in this study, it is not clear whether the content of the postgraduate course included restraint methods or the risks of restraint. Therefore, we could not discuss the association between the perception of the importance of restraint and the educational contents. On the other hand, the opinion that education related to ethical

aspects is necessary for health care professionals suggests much about the present conditions of nursing staff, in that they recognize the importance of ethical aspects both in nursing and in the medical field as a whole, and they complain about the lack of ethical education. As previously mentioned, postgraduate education is necessary for nursing staff to form an attitude based on human rights<sup>2)</sup>; restraint could serve as an opportunity to assure human rights are considered in various aspects in educational initiatives. In addition, in nursing staff's perception of restraint, anxiety and fear that safety cannot be maintained without restraint take precedence<sup>25, 26)</sup>; and studies have shown that education about restraint is delayed<sup>27, 28)</sup>. In this study, subjects thought that the purpose of restraint is patient safety and there was an opinion indicating that the subjects experienced anxiety over whether accidents could be prevented without restraint. In both cases, the risk of restraint was not recognized. However, these results may not necessarily signify that nursing staff's perception of restraint is insufficient. It seems that an analysis is necessary for various situations: for example, where no alternative method is available or a patient is experiencing a life-threatening risk. An association was indicated between the perception regarding the necessity of standards of restraint and job type: the percentage of subjects who required standards of restraint was 11 percentage points higher for the assistant nurses than the nurses. In the pre-interview, both nurses and assistant nurses reported that they had performed the same duties regarding restraint. Of 189 assistant nurses, only nine assistant nurses had no experience in the implementation of restraint. This seems to suggest a characteristic of nursing care in Japan, in that the difference in duties related to restraint between nurses and assistant nurses is vague, despite the fact that legally, there are distinct differences in duties between both job types. Some topics for future study include targeting study subjects based on differences in the contents and scope of work, educational background, or chain of command to determine the risks of restraint, the educational content regarding restraint, and its effects.

In Japan, informed consent and the rights of patients began to be discussed since approximately 1990. However, the percentage of the public who understand the meaning of these terms was 19%<sup>29)</sup>. This seems to indicate that the awareness of human rights has not been thoroughly rooted in Japan. In addition, it has been said that Japan is a society with an extremely poor concept of personal human rights as compared with the U.S.<sup>2)</sup>. It has been speculated that the lack of nursing staff's perception of the importance of restraint has been influenced by not only education for nursing staff but also cultural factors such as national character.

In terms of department, there was a difference of perception between intensive care/critical care units (ICU/CCU), in which restraint is generally thought to be implemented for medical treatment for more urgent and life-threatening cases, and internal medicine departments, such as geriatric wards, which work to achieve independent living during a chronic life stage. In ICU/CCU, there was a tendency for restraint to be considered an important means, as compared with geriatric and internal medicine wards. In other words, restraint is used similarly in both ICU/CCU and internal medicine departments, but the purposes for its use seem to differ greatly. In critical care, nursing staff seem to recognize that restraint is important and that it has been implemented more frequently

in those units than in internal medicine departments<sup>20)</sup>. There have also been differences found between restraint for the elderly and restraint for emergency medical treatment in the degree of patients' confusion, patients' characteristics, and the level of emergency<sup>34)</sup>.

Since the necessity of restraint can be predicted based on department, restraint should be used only when all the following conditions are met: it is confirmed that there are no alternative means other than restraint; restraint is not used continuously; and there is an emergency situation for the patient that is life threatening. Therefore, standards of restraint may be required. In this study, the percentage of nursing staff who have ever implemented restraint was 94.5%, while no hospital had actual, established standards of restraint. It can be speculated that whether restraint was implemented and continued was at the discretion of individual nursing staff. In the results of this study, 58% of all the nursing staff recognized that standards of restraint were required, and 71% of the nursing staff employed in hospitals where restraint had been abolished, recognized the necessity of standards of restraint. In the past, restraint was unavoidably used in chaotic situations. However, currently it has been suggested that nursing staff are demanding guidelines so they can use restraint after having assessed each case appropriately. Previous studies have reported that introducing standards of restraint reduced unnecessary and excessive restraint, and have confirmed the existence of situations in which restraint was the only choice<sup>26), 33)</sup>. Thus, restraint would be implemented only as needed when standards of restraint are used, which may lead to a decrease in unnecessary and preventive restraint. For medical institutions besides those institutions covered by Japan's long-term-care insurance system, restraint is not prohibited at present. It is desirable to propose a system in which the human rights of patients are assured in all medical facilities. Standards of restraint for hospitals or institutions, that consider the special characteristics of workplace as well as nursing care, need to be clarified promptly.

## 2. Nursing staff's perception of restraint other than binding

Fifty percent of the nursing staff recognized that there were means of restraint other than binding. According to the presence or absence of the abolition of restraint, many nursing staff who work where restraint had not been abolished responded that they did not know whether there were means of restraint other than binding. As previously noted, 94.5% of the nursing staff have experienced the implementation of restraint and many of them believed that restraint had been implemented without careful consideration. Therefore, it can be assumed that restraint by binding was routinely implemented. It has been indicated that the awareness of using restraining bands may come to be chronic and unconscious when restraining bands are used continuously<sup>23)</sup>. Nursing staff may become accustomed to restraint while implementing it.

On the other hand, 50% of the nursing staff recognized that there were means of restraint other than binding. In their responses, physical restraint, such as isolation, and chemical restraint, such as sedatives and sleeping pills, were included. The nursing staff most commonly recognized "restraint by words," such as words for prohibition (do not...) or for commands (do...). The nursing staff discerned the influence of words on restraint since they noticed that when they limited

patients' actions using words, the result was restraining the patient. Other various means of restraint included in the responses were bed guard rails and actions disliked by the patient, while only 37 nursing staff included clothing such as jumpsuits with a lock in their responses. According to the definition of restraint by the Ministry of Health, Labour and Welfare, "clothing" is considered a physical restraint. However, in general, the definition of physical restraint seems to have yet been fully understood by nursing staff. Given the vagueness of this definition, its interpretation by nurses and physicians has been varied<sup>24)</sup>. Thus, there are various viewpoints of restraint. When standards of restraint are introduced, a process of considering what restraint is and discussing whether the standards of restraint are based on the current state of society and medical care will be important.

## 3. Future issues and limitations of this study

It cannot always be said that restraint is safe because of various adverse effects. Even if such adverse effects are sufficiently known, professional judgment will be required when it is necessary to restrain patients. The results of this study revealed the following issues in introducing standards of restraint:

1. Each nursing staff must know and recognize that restraint is not necessarily safe.
2. Hospitals and institutions should clarify standards of restraint.
3. The method of nursing education regarding restraint should be reconsidered and staff should be reeducated

Though there are already standards of restraint, the standards have been revised again in the U.S.<sup>36)</sup>, and the quality of restraint has been evaluated consistently to continuously review and address problems. In the future, the continuous evaluation of the quality of restraint will also become an important issue in Japan.

In this study, the validity of the items in a measurement tool developed abroad was examined for Japanese nursing staff. However, to generalize the use of the scale, the reliability and validity need to be examined in a larger number of nursing staff. In addition, the generalization of the findings is difficult because the subjects were limited to one region.

Inpatients from the whole country were classified into two groups: patients aged  $\geq 65$  years and patients aged  $\leq 65$  years. Nationwide, patients aged  $\geq 65$  years accounted for 52.1% of the total number of patients. The average life span in Japan is high in the west and low in the east. The acceptance rates of treatment in each prefecture in the Kyushu district are higher than the national average of 1,176 (per 100,000 Population)<sup>39), 40)</sup>. Thus, the age of inpatients in the regions selected for this study is higher, and it is difficult to make judgments on analyses only by department. In addition, there was no response from nursing staff working in psychiatry departments and we cannot deny that a bias could have existed.

## V. Conclusion

1. Fifty percent of the nursing staff recognized that there were means of restraint other than binding. The means of restraint other than binding obtained from the responses included the use of words for a prohibition or command, and the use of drugs, such as sleeping pills, beyond the necessary quantity.

2. The nursing staff's perception of the importance of restraint was influenced by the presence or absence of education, management, and the department to which each subject belonged. However, there was no association found with educational content.

3. Fifty-eight percent of the nursing staff recognized that standards of restraint were necessary and required evidence-based information on restraint.

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