

ISSN Online: 2162-5344 ISSN Print: 2162-5336

Problems and Instruction Needed in Relation to Nursing Students' Handling of Patient Information—From a Survey of Nurses Coordinating Clinical Practicums in Japan

Mikiko Natsume

Department of Nursing College of Life and Health Sciences, Chubu University, Kasugai, Japan Email: c-ito@uhe.ac.jp

How to cite this paper: Natsume, M. (2018) Problems and Instruction Needed in Relation to Nursing Students' Handling of Patient Information—From a Survey of Nurses Coordinating Clinical Practicums in Japan. *Open Journal of Nursing*, **8**, 221-233. https://doi.org/10.4236/ojn.2018.83019

Received: January 6, 2018 Accepted: March 26, 2018 Published: March 29, 2018

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Abstract

The purpose of this study was to clarify and consider the instruction that is needed in relation to nursing students' handling of patient information, as felt by the people in charge of student clinical practicums in hospitals. Semi-structured interviews were conducted with 7 people in charge of organizing practicums at hospitals where they are carried out. These subjects were asked about problems they had experienced in relation to nursing students' handling of patient information and the instruction that is needed so that problems related to nursing students' handling of information do not occur. Various problems were shown to occur in relation to nursing students' handling of patient information, such as handling the information outside of the practicum setting. Many students receive no instruction with regard to the ethics of handling patient information in their classroom work, and their awareness regarding information is cannot be considered high, indicating the need for more consistent and reliable education in this area. The findings also suggest that instruction is needed with regard to the handling of sensitive information in accordance with the circumstances of individual patients.

Keywords

Nursing Student, Information Privacy, Clinical Practicum

1. Introduction

In providing medical care, medical personnel gather, record, and share information about individual patients. Nurses in particular handle much information on the physical, social, and psychological aspects of patients, and not uncommonly

that includes information that is deeply personal. Most countries have established their own legal regulations based on the 8 principles of the OECD guidelines related to the handling of patient information, examples of which are the Health Insurance Portability and Accountability Act of 1996 (HIPAA) in the USA and the Law on the Handling of Personal Information in Japan. These regulations are meant to ensure the ethical handling of information and protect the privacy of patients. Today, with the digitization of information in electronic medical records and other formats and the need to share information with other medical institutions due to shorter hospital stays and transfers, nurses' information ethics in handling patient information are becoming increasingly important. In the USA, the Technology Informatics Guiding Education Reform (TIGER) Initiative, a professional organization for nursing informatics, includes an informatics competencies team that presents information literacy competency, information ethics, and information management as competencies related to information necessary to nursing, to help nurses develop abilities related to information ethics.

In the educational process, nursing students gather patient information and provide nursing care under the instruction of faculty members and hospital staff in nursing practicums. These practicums are structured so that students care for specific patients. Although these students are in a position that is not legally subject to confidentiality requirements, they record various patient information in their practicum record and memos, and share information with other students in conferences and other settings. At the time of graduation from basic nursing education, student nurses need to understand the concepts of "confidentiality obligation" and "protection of personal information," and to have acquired a level of awareness that allows them act based on those concepts [1].

Considering the position of nurses in handling patient information, basic nursing education courses need to be enhanced to produce nurses with solid knowledge and competencies in information ethics for the proper handling of patients' personal information.

A number of news reports from various countries have appeared in relation to the handling of detailed patient information by nurses in their work, including reports on the viewing of electronic medical records for purposes other than the intended purpose [2] and accidents in which patient information is taken out of the workplace and the medium on which it is recorded is lost [3] [4]. Research papers on the handling of patient information by nursing students have also shown the occurrence of problems that involve or are related to ethical issues associated with privacy when nursing students gather information [5]. Education on ethics in the handling of information thus needs to be further enhanced.

There are currently no clear guidelines on the protection of personal information that show what and how students should be taught in basic nursing education. In actual instruction, reactions to these issues have been shown to be excessive at times, such as by some who state that nursing students should not be able to see the medical records of the patients they are caring for at all [6]. A survey

of opinions on the instruction that is needed, which includes the opinions of patients and the people in charge at hospitals, seems necessary. The aim of this study was to clarify the type of instruction that is needed for students in basic nursing education courses so that they can handle patient information appropriately with a basis in information ethics. The purpose of this study was to clarify teaching instruction related to nursing students' handling of patient information that is felt to be needed by hospital personnel in charge of coordinating nursing practicums at hospitals where they are held, and to investigate what instruction is necessary.

2. Methods

2.1. Subjects

The subjects were nurses in charge of coordinating nursing practicums at the hospitals that agreed to them (nurses in charge of education, etc.). The reason for selecting these subjects was that they are the ones who oversee the clinical practicums of students and are thought to be very knowledgeable about the current situation with regard to accepting students and the desires of patients. In order to elicit the wishes of the hospital overall with regard to the current situation and educational institution instruction, the specialty of the hospital department where the subjects worked was not asked. To limit the study to the situation at hospitals, community or home care practicum facilities were not included.

2.2. Selection of Participants

There are 71 hospitals with 300 beds or more in the prefecture where the study took place. Of them, about 30 hospitals that were geographically practicable to visit for interviews were selected, and requests were made to the head of the nursing department. If the head of the nursing department agreed, a letter of request including the study content and purpose was sent to the person in charge of coordinating nursing practicums to ask for their cooperation. Included with the letter were a consent form and a form with contact information to arrange an interview time. Return of the consent form was taken to be consent for the study. A date and time and the individual interview was set and the interview was conducted.

2.3. Survey Method and Content

Semi-structured interviews based on an interview guide were conducted. Questions on the following were asked during the interview.

- 1) Subject attributes including professional position, sex, and number of years' experience as a nurse.
- 2) Thoughts on being asked by patients about nursing students' handling of patient information.
 - 3) Problems seen or heard about related to the handling of patient informa-

tion by nursing students.

4) Instructions or considerations felt to be needed so that problems related to the handling of patient information do not occur.

"Consideration" in this study includes matters that should be kept in mind when giving instruction.

5) Other opinions regarding the handling of patient information by nursing students.

The surveys were conducted between September 2015 and January 2016.

2.4. Analysis

The interviews were recorded with the subjects' consent using an IC recorder. Transcriptions were prepared, and semantic content was classified according to the following procedures based on the similarity of the semantic content. The transcripts of the recorded interview content were read repeatedly, and remarks consistent in meaning were abstracted. The notes made by the researcher during the interview were summarized for clarification without changing the meaning. The summarized statements were grouped according to similarity of meaning and content, and subcategories expressing common meanings were identified. Further grouping was done based on the similarity of semantic content in the subcategories, and categories that express further common meanings were identified. In the analysis process, the results were reviewed several times with a nursing researcher experienced in content analysis with the aim of ensuring validity.

2.5. Ethical Considerations

When requesting cooperation with this survey, a written explanation was sent to the head of each hospital's nursing department with regard to the protection of privacy and ethical considerations. The subject of the research was explained in writing and orally, and the survey was conducted with ethical considerations for the subjects. The explanation included that the interviews would be held in a place where privacy was maintained and the anonymity of the interview content was ensured; that the collected data would be confidential and the data and contact information would not be used for any purpose other than this study; that subjects could withdraw from the study even after giving consent; and that the individual would suffer no disadvantage by not consenting to participant. Final confirmation was made orally at the start of the survey. Consent from the ethics committee of the author's affiliated institution was obtained for all of the procedures in this study (approval number 270039).

3. Results

The subjects who consented to participate in the study are shown in **Table 1**. They were 7 nurses from 7 hospitals, including 4 head nurses in charge of education, 1 chief nurse in charge of education, and 2 ward head nurses. All subjects

Table 1. Subject attributes, n = 7.

Position	Education head nurse	4
	Education chief nurse	1
	Ward head nurse	2
Age	50 s	4
	40 s	3
Sex	Female	7

were female. The interview times were 31 - 49 minutes, with a mean time of 40.5 \pm 10.5 minutes. In the following, quotation marks are used for the specific statements in the interviews, italics are used for subcategories, and bold letters are used for categories.

3.1. Problems Felt in the Handling of Patient Information by Nursing Students

Fifty-eight descriptive statements were abstracted for problems felt in relation to nursing students' handling of patient information. They were arranged into 3 categories consisting of 6 subcategories (**Table 2**).

The 3 categories were **Problems of individual students**, consisting of the subcategories *Descriptive content in recorded materials*, *Handling of recorded materials*, and *Handling of sensitive information*; **Conference problems**, with the subcategory of *Shared content in conferences*, and **Problems outside the practicum setting**, consisting of *Places where information is handled* and *Information sharing parties and methods*.

3.2. Necessary Instruction and Considerations Associated with Students' Handling of Patient Information

Seventy-six descriptive statements were extracted for instruction and considerations needed in conducting practicums. They were arranged into 4 categories consisting of 8 subcategories (Table 3). Each of the categories is described below.

1) Instruction for students

In the category of **Instructions for students**, the subcategory of *Handling of sensitive information* was derived from statements such as "When students are caring for patients with infectious disease, a university faculty member is consulted with regard to the sharing of information between students and the way to write records," and "Some patients have complex family relationships, and students are sometimes cautioned about sharing information." The subcategory of *Handling of patient information* outside the hospital was derived from statements such as "Instruct students to shred memos and practicum records when the practicum is completed," and "Specific instruction is given, such as to only use a conference room or similar place to discuss matters related to the practicum." The subcategory of *Information sharing on networks* was derived from

Table 2. Problems in students' handling of patient information.

Category	Subcategory	Examples of statements
Problems of individual students	Descriptive content in recorded materials	Information that can be used to identify patients written in recorded materials
		More detailed information than is necessary for nursing work is written
		There are cases when memos or not anonymized
	Handling of recorded materials	Recorded materials forgotten on public transportation
		Memos, records, etc. accidentally left at bedside
		Leaves seat without logging out of electronic medical records
		Memos, records are not disposed of properly after the end of the practicum and sent to a third party
		Medical record IDs are shared between students
		Practicum records are forgotten in a copy machine
	Handling of sensitive information	Student asks patient sensitive information not needed for nursing
		Student explained situation to patient before the explanation from the doctor
Conference problems	Shared content in conferences	More detailed information more than is needed for nursing care (address etc.) is shared
		Understanding of patient information is lost with patient anonymization in conference
Problems outside the practicum setting	Places where information is handled	Records are made in public places (restaurants, etc.)
		Practicum is discussed in public on public transportation
	Information sharing parties and methods	Matters related to practicum is shared on SNS
		Things from which the situation in the hospital can be understood are shared on SNS
		Students and patients have exchanges and share information on SNS
		Photos that are taken inside the hospital are shared

statements such as "Guidance is needed for a better familiarization with the use of things such as social networking services (SNS) before working in society," "Information sharing on SNS is reduced by conducting practicums so that students can sort out their emotions within the practicum hours, and do not need to think about the practicum after returning home," and "Information sharing on SNS is reduced by arranging so that students can express and sort out their emotions in a conference or other proper setting." These 3 subcategories were adopted as instruction for students.

2) Considerations for patients

The category **Considerations for patients** was adopted with the subcategory *Considerations for patients cared for by students*, derived from statements such as "Permission is obtained for the sharing of information between students" and "Cooperative patients are selected for student practicums."

3) Considerations by the hospital

Two subcategories were adopted for **Considerations by the hospital**: Considerations related to the use of electronic medical records, derived from

Table 3. Necessary instruction, considerations, and points bear in mind associated with students' handling of patient information.

Category	Subcategory	Examples of statements
Considerations for patients	Considerations for patients cared for by students	Permission is obtained for sharing of information between students
		Cooperative patients are selected for student practicums
Instruction for students	Handling of sensitive information	Schools are consulted about information sharing between students and the way to write records in cases of patients with infectious disease
		Some patients have complex family relationships, and students are cautioned about sharing information
		Students are instructed to be careful in dealing with patients when the patients have not yet been told the name of their disease
		Students sometimes talk about symptoms before patients receive explanation from doctor, and are instructed about that
	Handling of patient information outside the hospital	Students are instructed to shred memos and practicum records when practicum is completed
		Specific instruction is given, such as to only use a conference room or similar place to discuss matters related to the practicum
		Detailed instruction is needed up to the time that students dispose of memos, etc.
-	Dealing with information sharing on networks	Students are instructed not to share photos that show inside of hospital on networks
		Better familiarization with the use of SNS etc. is needed before working in society
		Information sharing on SNS is reduced by conducting practicums so that students can sort out their emotions within the practicum hours and not think about the practicum after returning home
		Information sharing on SNS is reduced by arranging so that students can express and sort out their emotions in a conference or other proper setting
Considerations by the hospital	Considerations related to the use of electronic medical records	Access for non-work purposes is prevented by explaining to students that electronic medical record access histories are kept
		Students need to be made to realize that there is a time and place for the use of electronic medical records and other information
	Creating the practicum environment	Arrange for a shredder and copy machine for students to use
Considerations by the university	Record sheets and method of writing records	Establish a format in which memos and record sheets are taken out as little as possible
		Students are asked to buy a practicum bag to hold their set of records
		Adopt a format of writing patient information directly on record sheets (without first taking notes)
	Attitudes toward handling information	Instruction is needed so that students will feel that they are in a position of handling important patient information

statements such as "Access for other than the intended purpose is prevented by explaining to students that electronic medical record access histories are kept" and "Students need to be made to realize that there is a time and place for the use of electronic medical records and other information," and *Creating the practicum environment* derived from statements such as "Arrange for a shredder and copy machine for students to use."

4) Considerations by the university

The category Considerations by the university consists of 2 subcategories:

Record sheets and method of writing records, derived from statements such as "Establish a format in which memos and record sheets are taken out as little as possible" and "Adopt a format of writing patient information directly on record sheets (without first taking notes)," and Attitudes toward handling information, which requires instruction so that students will recognize that they are in a position of handling important patient information.

3.3. Other Things Felt with Regard to Students' Handling of Patient Information

Other things given as being felt with regard to the handling of patient information are shown in **Table 4**.

One category was **Information sharing on SNS**, derived from comments such as "It is easy for people to understand that information which can be used to identify a patient must not be posted on SNS, but decisions about information that can or should not be written on SNS regarding the situation in the hospital varies depending on individual values, making instruction difficult."

The other category was Considerations for patients being cared for by nursing students, derived from statements such as "Permission is obtained from patients for information sharing between students," "Actual permission is not obtained, but there is an understanding that permission for students to share information is obtained at the moment a patient consents to the practicum," and "If a detailed explanation including the details on purpose of the practicum and the handling of information is given, patients may refuse to be cared for by nursing students."

4. Discussion

The results show that nurses in charge of nursing practicums at hospitals felt that various problems exist related to the handling of patient information in nursing practicums. They include Problems of individual students, such as a student not anonymizing the content written in records or losing records, Conference problems, such as the content of information that is shared in the learning setting of practicum conferences, and Handling of information outside the practicum setting, such as the revealing of information including records or having conversations in a public setting. Instruction and considerations to prevent these things from happening included not only Guidance for students, such as specific instruction about the handling of information outside the hospital, but also Considerations by the hospital, including having a copy machine and shredder for student use, Considerations by the university, including controlling the way records are kept with the use of record sheets and other means, and Considerations for patients, including the selection of patients to be cared for by nursing students. Respondents felt that situations need to be orchestrated through diverse instruction and consideration so that problems are less likely to occur. Several of the types of indicated instruction are discussed in the following.

Table 4. Feelings and opinions on students' handling of patient information.

Category	Examples of statements
Information sharing on SNS	It is easy for people to understand that information that can be used to identify a patient must not be posted on SNS, but decisions about information that can or should not be written on SNS regarding the situation in the hospital varies depending on individual values, making instruction difficult
	There are problems not only with students but with working nurses in how they express themselves on SNS
	If problems in nursing students' handling of patient information on SNS are surfaced, we may lose patients willing to cooperate with the next practicum
Considerations for patients being cared for by nursing students	Permission is obtained from patients for information sharing between students
	There is an understanding that permission for students to share information is obtained when a patient consents to the practicum (actual permission is not obtained)
	If detailed explanations including the particulars on the purpose of the practicum and handling of information, patients may refuse care by nursing students

4.1. Considerations for Patients

None of the subjects in this study had heard the opinions or wishes of patients. The reason for this is that we were told patients who were cooperative with student practicums were selected from among all patients, and that subjects asked patients to accept care from a nursing student. This suggested that student practicums proceed more smoothly with considerations for patient selection and full explanations to patients from instructors.

While some respondents said that permission for information sharing between students needs to be obtained when explaining the practicum to patients under student care, others thought that consent for information sharing among students was included when the patient consented to accept student care, and that a detailed explanation was not necessary. Still others thought that patients may refuse student care if a detailed explanation about information handling was given. This indicates that variation exists in the amount of detail given in explanations and in the thinking of faculty members. Examples of nursing student consent forms were shown in an investigative report on how skills training should be done in basic nursing education [7], but the part on the protection of individual information was abstract and there are no guidelines for the details of these explanations. A previous study showed that faculty members did not feel it was a problem for information that can identify individual patients and information that is highly private to be shared in conferences between students who are learning together [8]. In contrast, other studies have shown that patients believe that their information is shared only among people directly involved in their care [9]. Thus, there seems to be a need to clarify how patients themselves understand information sharing among students, and to investigate the best way for information to be shared among students.

4.2. Instruction for Students

1) Instruction and considerations related to information sharing on networks

The sharing of information on SNS, in the category Information sharing
parties and methods, was given as a problem in the handling of patient information. Problems that were indicated included not only the sharing of information that can be used to directly identify patients, but also the sharing among students of photos showing records even though patient information has been anonymized, sharing information on the situation within a hospital on SNS, and sharing of photos that show the inside of hospitals. There are many media reports in Japan on problems related to information shared on SNS, including in the fields of nursing and medicine, and this has become a major social problem in recent years. It was shown that in the current situation similar problems are likely to occur among nursing students as well.

Many necessary instructions were given with regard to the sharing of information on SNS. They included not only teaching about things that must not be shared and things to be careful about, but also comments such as "Unless practicums are made so that students do not have to think about the practicum after they go home, they may end up sharing information on SNS," and "Students need to be given an opportunity to express their opinions in conference settings." This suggests that students need not only instruction related to nursing care, but also help dealing with their emotions. In today's society the use of SNS is thought to be essential in forming and maintaining groups and in strengthening cohesion among those groups [10]. Limiting the use of SNS among students of the young generation is predicted to be difficult. Faculty and instructor involvement will be necessary so that students can sort out their emotions in the practicum setting, without relying only on SNS.

Information sent out on SNS may include problems in ethical terms even if it does not include patient information, and there are no clear criteria for determining what is good and what is not. This suggests the need to provide instruction so that each individual can make ethical judgments, even though such instruction is said to be difficult.

2) Problems associated with the handling of sensitive information and relevant guidance

Problems that occur with regard to the *Handling of sensitive information* included students' sharing of sensitive information on things such as infectious disease, disease names, or family relationships, and the collection from patients of sensitive information above what is needed to carry out their nursing duties. This information includes items not raised in a survey of faculty members on the instruction thought to be necessary [11], and it is thought that hospital instructors in particular need to give instruction not only on the handling of information that is applicable to patients in general, but also on the handling of sensitive information corresponding to the illness or situation of individual patients. There are assumed to be matters related to actual nursing practices for which it

is difficult to give appropriate instruction in classroom settings only in basic education courses. To make it more likely that sensitive information is handled in ways that are suitable for each patient, hospital instructors need to grasp a range of information and provide instruction with coordination between faculty members and hospital instructors.

4.3. Considerations by Universities

The findings suggest university teaching needs to include instructions and considerations to decrease the likelihood of problems, based on the formats and management of recorded materials.

Among things felt to be problems, it was shown that problems of individual students occur not only through inattention, such as loss of recorded materials by accident, but also insufficient awareness by students regarding patient information, such as failure to anonymize recorded material or inappropriate disposal methods for practicum records that contain patient information. In addition, with regard to school instruction on the handling of patient information by nursing students, the need was indicated for instruction that will help students realize that they are in a position of handling important patient information. Accordingly, there is a need to measure the establishment of knowledge in coursework and other learning on the ethics of handling information.

With regard to the present status of conceptual learning of information ethics, only 25.0% of universities have special classes to teach information ethics associated with the handling of written patient information, as described in the Act on the Protection of Personal Information and privacy laws, and about half of these classes are electives. This indicates the possibility that many students are not educated on information ethics in their coursework [12]. In the tight curriculum of basic nursing education, teaching about the handling of information is assumed to be difficult in the regular coursework. Instead, it is thought to be taught in settings such as clinical practicums where patients are actually treated. The possibility that students do not learn the concept of protecting personal information in coursework or elsewhere suggests that instruction related to practicums needs to include not only instruction at the level of specific actions but also education on privacy concepts.

4.4. Considerations by Hospitals

The need to set up the practicum environment was also indicated, such as by having a shredder and copy machine for students only. Many surveys have shown that the methods for disposing of memos taken out of the hospital and practicum recorded materials are insufficient [13] [14], and it is difficult for faculty members to check which records have been taken out. It was shown that in addition to measures on the part of the university, such as the formats of records and memos, hospitals also need to set up the practicum environment so that to the extent possible information does not need to be taken out.

The findings indicate that hospitals need to give instruction on the appropriate handling of electronic medical records, including informing students that electronic medical record access history will remain in the computer system. Media reports on medical record access for purposes other than the intended use are also seen in the case of working nurses. Measures to prevent this were shown to be needed for nursing students as well.

5. Conclusions

This study has shown the following.

- It was shown that various problems occur in relation to the handling of patient information by nursing students, such as Problems of individual students and Handling of information outside the practicum setting. Among them are problems that are thought to occur from a lack of student awareness about patient information. It was shown that many students are not educated on the ethics of handling patient information in coursework, suggesting that more consistent and reliable education is needed.
- The need was felt to create conditions that make problems less likely to occur, by giving specific instruction on the handling of information outside the hospital, developing the practicum environment on the hospital side, and teaching methods of making records on the university side. It is also thought that instruction for students is needed on the handling of sensitive information, suggesting the need for individual instruction on the handling of patient information in accordance with the circumstances of individual patients.

Limitations

This study showed the educational content related to information ethics in university undergraduate programs, problems that occur in the handling of patient information in clinical practicums, and the type of instruction that is needed. However, the number of subjects in the survey was limited, and the findings cannot be generalized. In the future it will be necessary to identify issues that are applicable to current educational content and problems by increasing the number of subjects for the problems that occur and instruction given, and surveying faculty members on the educational content that is actually implemented.

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