The actual situation about practical capabilities of information control in the certified nurse administrator education first and second level trainees

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Abstract

This study was conducted to reveal the present circumstances and problems related to practical capabilities of information control and clinical nursing among nurse administrators. Therefore, to elucidate the practical capabilities of information control and use among nurse administrators, we conducted a survey of “the practical capability of information control and use of nurse administrators” using self-administered questionnaire forms. Subjects were 123 people who took certified nurse administrator training hosted by Japanese Nursing Association during August 2011 – December 2011. Results revealed that most people considered that “capabilities of nursing control are much needed.” Nonetheless, at the practical level, results showed extremely low values in terms of being “capable of”: 1) judging the reliability of obtained information; 2) processing data using statistical software; 3) disseminating information while devoting attention to copyrights; and 4) understanding noteworthy points related to the use of ICT and knowing how to adapt in cases of trouble. In addition, those who had received information education were only 17.9%, which was found to be one factor preventing nursing managers from improving their practical capabilities of information control and use.

Keywords: clinical nursing, Nurse Administrator, information control practical use capability, e-learning

1 Introduction

Nurse Administrators at clinical nursing sites are key members of the fundamental organizational unit at a hospital. They strongly influence nursing and medical care quality depending on their control capability (e.g., people, things, money, information, and time). In recent years, middle nursing managers have been questioned about their control capabilities for education for new nurses, planning of continuing education, and for implementing new methods. “There is a gap separating educational sites and clinical education in terms of practical nursing capability of new nurses, the obligation to make efforts to provide training” has been placed on education for new nurses at clinical sites since 2010 “to acquire educational content steadily, particularly in clinical sites.”[1]

Figure 1 shows general human resource development in the nursing department of a hospital facility.

Fig 2 shows the present circumstances, under which middle nursing managers of a hospital’s fundamental organizational unit process various information related to daily affairs. Middle managers of an organizational unit must process various information on a daily basis.

They are strongly required to have the capability of information control and use, which includes methods used to gather, organize, analyze, activate, and disseminate large amounts of information. Nursing managers
are also strongly required to have capabilities of information control and use, such as acquiring knowledge of information ethics. An earlier study evaluating the management capabilities of nursing managers revealed “information directivity is needed” among the items with low values of evaluated capability \(^2\). Additionally, in a study of “the competence of middle managers in a time of great change”, reportedly all research collaborators (107 certified nurse administrators) considered that the capability of information control (gathering, grasping, sharing, analyzing, disseminating, providing, and using) was needed\(^3\). However, it is assumed that few middle managers who are responsible for information control at these sites have received information education. Therefore, ICT is inadequately applied. Middle managers must have or attain practical capabilities of information control and use, which includes acquiring knowledge of information ethics, as well as methods used to gather, organize, analyze, activate, and disseminate large amounts of information. Particularly in recent years, the introduction of ICT, including electronic medical records, continues to progress rapidly. Nonetheless, few Nurse Administrators who actually practice information control at these sites have received information education.

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**Fig 1** Diagram of human resource development in the nursing department of a hospital facility.

**Fig 2** Information control by Nurse Administrator in an organizational unit.
In the United States, the American Nursing Association (ANA) reported in 1994 that all nursing practitioners have ICT-related capabilities. Nursing informatics was recognized as a specialized area of nursing practice. However, recognition of the field of nursing informatics is notably low in Japan. Information education was included in official guidelines for school teaching in 1998. In 2004, information subjects were introduced into high schools. Considering those facts, many managers probably belong to the generation of students who did not receive information education in a systematic manner. An example of information education in the field of clinical nursing is the information control theory in certified nurse administrator training hosted by prefectural nurse centers. It set learning goals: “being capable of understanding the conceptualization of information and using it for nursing control” at the first level and “being capable of analyzing the situations of the introduction and using information technology in insurance medical welfare and looking to the future” at the second level. This report describes the results and problems of “a survey of the practical capability of information control and use of Nurse Administrators”, which was conducted among people who took certified nurse Administrators training hosted by Japanese Nursing Association during August 2011 – December 2011.

2 Materials and Methods

We conducted a self-administered questionnaire survey of the practical capabilities of information control and use. Subjects were 116 people who took certified nurse administrator training held at Japanese Nursing Association during August 2011 – December 2011. Specific contents of the survey were 13 questions related to attributes and 16 questions related to the capabilities of information control and use. The survey employed a 5-point Likert scale, with responses ranging from 1 = “not at all needed” to 5 = “very much needed”, and from 1 = “not at all capable” to 5 = “very capable”. For explanation of the questionnaire, the researchers went to an actual training site and explained the aim and voluntary characteristics of the study. The analysis of results was based on the grand total. Centering on the correlation, we used statistical analysis software (SPSS19.0J; IBM Japan Ltd.), with a significance level of 5%. Regarding ethical considerations, we explained the confidentiality, the voluntary nature of research cooperation, the freedom to stop participation at any time, and the publication of results in writing. Consent was inferred when participants returned the questionnaire. This study was conducted under the approval of the ethics committee of Morinomiya University of Medical Sciences.

3 Results

The number of questionnaires collected was 116 (collection rate 100%). The nursing managers’ positions were: 70 (60.3%) Head nurses, 32 (27.6%) Chief nurses, 2 (1.7%) Directors of nursing departments, 6 (5.2%) Vice-directors of Nursing departments, and 6 (5.2%) offering no response. The average age (mean±SD) was 44.1±5.3 years old. The average years of nursing experience were 22.0±5.7 years. Regarding the place of work, 83 (71.5%) worked in wards, 11 (9.5%) in outpatient units, 8 (6.9%) in operation rooms, 7 (6.0%) in nursing control offices, and 5 (4.3%) in other units. In terms of final specialized educational background, 1 (0.9%) had graduated from a graduate school, 10 (10.6%) from universities (including junior colleges), and 98 (84.4%) from nursing schools. To the question of “Have you ever received information education?” 23 (19.8%) answered “Yes” and 93 (80.2%) answered “No”. To the question of “Do you like using computers?” 73 (62.9%) answered somewhere between “like and like somewhat” and
42 (36.2%) answered somewhere between “do not like very much and dislike”. To the question of “Are information systems, such as electronic medical records, currently installed at your workplace?” 75 (64.7%) answered “installed”, 26 (22.4%) “Planned for future installation”, and 11 (9.5%) answered “not installed”. Results (Mean±SD) from questions related to information control and use are presented respectively in Figure 3 and Figure 4.

Fig 3  Capability of nursing information control and use.

Fig 4 Practical capability of information control and use Capability.
In terms of the practical capability of nursing information control and use required for nursing managers, the values of results were 4.0 or greater for all questions. Particularly “being capable of gathering and using data, along with protecting personal information, is needed” showed the highest value of 4.66±0.71.

With regard to the practical capability of nursing information control and use, “capable of seeking information necessary to solve a problem using the internet” was 3.74±0.81, and “capable of expressing in an easy-to-understand way and communicating with other people using appropriate ICT tools” was 3.72±0.81. The result showing the lowest value at the practical level was “capable of processing data using statistical software (e.g., total, average, test, graph, and tabulation)” with 2.86±1.01 with subsequent “understanding how to judge the reliability of obtained information” with 2.94±0.899, “capable of disseminating information while devoting attention to copyrights” with 2.95±0.981, and “understanding the points to note in the use of ICT and knowing how to do so in case of trouble” with 2.93±0.896 (Figure4).

Next, as for the practical capability of nursing information control and use required for nursing managers, significant differences were found between “position”. The fact might invariably demand information acquisition. In terms of the practical capability of nursing information control, significant differences exist between “Do you like using computers?” and “capable of disseminating information while devoting attention to copyrights”, “understanding how to judge the reliability of obtained information”.

4 Discussion and Conclusion

We conducted a survey of the practical capabilities of nursing information control and use among 116 people taking certified nurse administrator training. Results revealed that the average age was 44.1±5.3 years old and that the average years of nursing experience were 22±5.7 years. Regarding the experience of information education, 80.2% of the subjects “(had) not received information education.” To the question of “Do you like using computers? 36.2% answered somewhere between “do not like very much and dislike”. In addition, 31.9% of the facilities in which subjects worked did not introduce electronic medical records.

In Japan, information education was included in the official guidelines for school teaching in 1998. In 2004, information-technology related subjects were introduced into high schools. Considering those facts, many managers probably belong to the generation of students who did not receive information education in a systematic manner. Currently, information control theory is taught in certified nurse administrator training. However, an annual quota exists for people who can take training. Nursing managers have few opportunities to receive information education. These circumstances might influence the practical capability of information use at clinical sites.

Next, in terms of the practical capability of nursing information control and use required for nursing managers, the values of results were 4.0 or greater for all questions. Particularly “being capable of gathering and using data, along with protecting personal information, is needed” showed a high value of 4.66±0.71. In recent years, because of the establishment of more nursing universities and graduate schools, guides and guiding systems for clinical research are regarded as being ready. Clinical research has become active. Opportunities to receive information education are also increasing: environments capable of yielding research literature and information directly are increasing, resulting from the installation and the improvement of document retrieval systems. In terms of the fact that “capable of processing data using statistical software (e.g., total, average, test, graph, and tabulation)” showed a value of
2.86±1.01, learning of specific statistical methods might not be sufficient. Moreover, being unable to use statistical methods might not create any particular disadvantage. Nevertheless, nursing managers who control large amounts of information in wards, if they could use that information, might thereby improve the quality of nursing care. The service level and the satisfaction of patients and families would improve, and staff would increase in the future.

Moreover, regarding the practical capability of information control and use required for nursing managers, a marked difference was found between “position” and “seeking information necessary to solve a problem using the internet is needed.” The higher the employee position, the more tasks they would have to handle when trouble arises. This fact might invariably demand information acquisition. Significant differences were found between “the number of beds and capability of processing data using statistical software”. This result was attributed to the following reasons: of the subjects in this survey, 83 (71.5%) were working in wards and those involved in controlling large amounts of information, as shown in Figure 2. In terms of the practical capability of nursing information control, significant differences were found between “Do you like using computers?” and “capable of disseminating information while devoting attention to copyrights” and between “with or without experience of information education and age and years of service”. The more opportunities employees have to use information equipment, the more knowledge of operation and systems increase. Consequently, employees are expected to be able to overcome difficulty. As indicated by the discussion presented above, using the practical capability of information control and using it at actual sites in the future, Strategies for overcoming difficulty to information equipment are necessary. Nursing managers have time constraints both in their private and professional lives. To encourage them to use computers and the internet, their environment must be improved because they can contribute immediately. One example is the installation of computers connected to the internet in each ward. In addition to that access, a system to inform employees how to operate and use the computers must be developed.

References