

A Trial Calculation of How Many Newly Graduated Nurses can be Trained at National Hospital Organization Facilities that Satisfy Provisional Standards on Desirable Educational Systems

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【Abstract】 The report from “Study Group on Improving the Clinical Capabilities of Newly Hired Nurses,” published by the Japanese Ministry of Health, Labour and Welfare in March 2004, outlines the goals and guidelines for the education of newly hired nurses. How many hospitals are providing acceptable education as proposed in this report and how many nurses can be educated at these facilities, however, remains unknown. On the basis of this report, we recently conducted a survey of the educational support systems and learning environments for newly hired nurses at a significant number of hospitals located throughout Japan. We then created provisional standards for those educational systems and learning environments deemed desirable at hospitals providing education to newly graduated nurses. We also sought to find how many hospitals satisfy these standards and how many nurses could be educated at these hospitals. In 2005, we conducted a survey of all hospitals in four Japanese prefectures; Tokyo, Kanagawa, Osaka, and Hyogo (Survey A), and all member hospitals of the National Health Organization, NHO (Survey B). The response rate of Survey A drastically differs from Survey B, so we used a different calculation to quantify the results. We developed provisional standards based on current status, and used this original standards for both calculations. This article mainly reports on the results of the NHO survey. The analysis was based on the survey results from 109 NHO hospitals, representing 72.2% of the total number of NHO hospitals. The tentative standard score (range 0-10) was based on the sum of ten questionnaire items. Our calculation found that the number of hospitals with a tentative standard score of 9 or higher was 50, the number of new graduates receiving training in 2004 was 817. The number of trainable new graduates (10% of the total number of nurses) was 992. At the 82 hospitals with a tentative standard score of 8 or higher, the number of new graduates receiving training in 2004 was 1,361, and the number of trainable new graduates (10% of the total number of nurses) was 1,633. It is an option that those hospitals deemed to provide superior training will develop model projects to promote the education of newly hired nurses.

【Keywords】 newly graduated nurses, educational support systems, learning environments, questionnaire survey, Japan

Introduction

As medical care becomes more complex, the level of clinical nursing knowledge and skills required at hospitals has been rising, and the volume and intensity of nursing work has also been increasing. This trend is due to the rising age of patients, and an increase in patients' ailments while the average hospitalization periods become ever shorter. These trends are even more marked in the United States where patients' hospitalization periods have been decreasing drastically (Goode et al., 2004). In Japan, the gap between the level of basic nursing

provided at professional work environments and the level of the capabilities of new graduates from nursing schools has been expanding.

Ibe et al. (1999, 2000) conducted studies on the postgraduate clinical education of nurses. This study examined the optimal clinical training for new graduates from nursing schools, and how these graduates were received at workplaces. This study pointed out that there were many nurses who had no experience with nursing techniques or skills that are highly invasive during their pre-graduate clinical training. These new nurses, therefore, faced the necessity of dealing with such techniques or developing such skills for the first time after actually starting to

work in a clinical setting.

Other studies have suggested that newly hired nurses are involved in a high percentage of adverse patient incidents, and that patient safety can be undermined by the lack of experience of newly hired nurses. Kawamura et al. (2000, 2001) analyzed 11,148 mistakes and near-misses involving nurses. Analysis revealed that the mistakes and near-misses were often related to the following types of work: (1) procedures and skills at giving injections (including drip infusion), (2) knowledge of drugs for injection, (3) oral drug treatment, (4) blood transfusion, (5) manipulation of I.V. fluids and syringe pumps, and (6) manipulation of respirators. The same researchers studied and analyzed when and where newly hired nurses learned a set of 100 skills related to the aforementioned six types of work. They found that, on the whole, the percentage of those skills learned during their pre-graduate training was low.

In 2002, the Japanese Nursing Association (JNA) issued the "Survey Report on Basic Nursing Skills of Newly Graduated Nurses in 2002" (JNA, 2003). This report dealt with the clinical capabilities of new nurses immediately after being hired and 3 months later. It also investigated the extent to which the basic nursing skills had been acquired during pre-graduate clinical training. The report demonstrated that: (1) at the time of recruitment, the number of nursing skills the newly recruited nurse was confident in practicing without assistance was small; (2) at 3 months after recruitment, nurses tended to be able to practice the skills learned during pre-graduate clinical training, without assistance; (3) nurses had relatively little experience with invasive nursing procedures during pre-graduate clinical training; and (4) the capability to practice the frequently required skills improved following on-the-job training (OJT), etc., even when such skills had not been practiced during pre-graduate clinical training.

On the basis of the findings from these several reports, it is clear that nursing knowledge and skills, especially invasive nursing skills, are difficult to master in under graduate basic nursing education. Since 1999, the Ministry of Education, Culture, Sports, Science and Technology (MEXT) has been sponsoring a workshop known as the "Study Group on Future Nursing Education," whose objective it is to encourage discussions about linkage and cooperation between universities and medical facilities with the goal of improving basic nursing education (MEXT, 2001). In March 2002, the MEXT issued a report entitled "To Improve Education of Nurses' Practical Capabilities at Universities" (MEXT, 2002). Regarding the curriculum for undergraduate nursing education, this report summarized the skills that should be learned by nursing students

before graduation and clearly presented the goals to be achieved by nursing students. Clinical training plays a significant role in the mastering of nursing skills. The said report referred to expectations and issues related to clinical training and problems found in the systems of education at universities and training facilities, and proposed measures to be taken to resolve those problems. The greatest issue in the clinical training systems pertains to the difficulty in providing nursing care, for patients or other subjects, by nursing students (who have not yet been licensed for nursing) due to the recent increased sophistication of medical care (requiring high levels of skill to be mastered by nurses). This problem is inherent in the current nursing education system and is related to the recent increase in patient awareness of their rights. Regarding this connection, the report states: "It is desirable and necessary that the method of training for the mastery of skills involving invasive intervention is clearly defined at individual facilities and that a valid system for training is established jointly by universities and medical facilities."

To resolve this issue, in March 2003, the Ministry of Health, Labour and Welfare (MHLW) issued "Report from the Study Group on Skill Training in Basic Nursing Education" (MHLW, 2003). This report presented, among other things, fundamental views about nursing skills to be learned by students during clinical training and how to teach invasive nursing skills. On the basis of the "basic nursing skills" listed in the aforementioned MEXT report (MEXT, 2002), this report classified basic nursing skills to be learned by students during clinical training into three levels for the purpose of improving the effectiveness of clinical training and ensuring the safety of patients cared for by nursing students. The three levels are: Level 1 (skills which can be practiced by students alone under the advice and instruction of teachers and registered nurses), Level 2 (skills which can be practiced under direct instruction and supervision of teachers and registered nurses), and Level 3 (skills to be learned by observing the conduct of nurses or physicians). Nursing skills that the students do not practice during pre-graduate clinical training will become indispensable once they become registered nurses, i.e. after graduation from school.

In March 2004, the MHLW issued "Report from the the Study Group on Improving the Clinical Capabilities of Newly Hired Nurses" (MHLW, 2004). This report discusses the nursing skills, knowledge, and attitudes that needed to be mastered during the first year after graduation from nursing schools. The report also proposed standards of educational support for new graduates. These standards included matters related to staff in charge of nursing education, training programs, and educational methods.

In Japan, the average percentage of drop-out rate for newly hired nurses (15.9%) is higher than that of the general nursing population (11.6%) (JNA, 2004). This suggests that it is difficult for newly hired nurses to adapt to their workplaces. It is an urgent challenge in nursing administration to establish a system through which the knowledge and experience of newly hired nurses, which are insufficiently acquired during nursing school education, be supplemented with post-graduate training. Further, it should be assured that newly hired nurses can provide safe and high quality nursing services. Although awareness of the necessity of promoting training for newly hired nurses has been increasing across the nation, concrete measures taken towards meeting this goal vary greatly depending on the educational background and the circumstances of individual facilities.

“Report from the Study Group on Improving the Clinical Capabilities of Newly Hired Nurses” (MHLW, 2004) presents the goals and guidelines for education of newly hired nurses. But the number of facilities providing acceptable education to newly hired nurses and the number of nurses that can be educated at these facilities remains unknown.

On the basis of the previous report (MHLW, 2004), we conducted a survey of the educational support systems and learning environments for newly hired nurses at several hospitals. We then created tentative standards for the educational system and learning environments desired for hospitals providing education to newly hired nurses. We then considered how many hospitals satisfy the standards and how many nurses can be educated at these hospitals.

In Japan, there is no governmental standard as regards the education and training program for newly hired nurses that discriminates between good facilities and others. The Nursing Division of the MHLW has discussed this for several years, and issued previous reports. The government wishes to make a standard for newly registered nurses’ training programs, but they are still trying to establish a standard which is suitable for the current situation. This research aims to make original provisional standards based on the current situation, and calculate how many newly graduated nurses were/can be trained at hospitals that satisfy provisional standards. This research makes a new phase of governmental policy.

In 2005, we conducted a mailed questionnaire survey of all hospitals in four Japanese prefectures (Tokyo, Kanagawa, Osaka and Hyogo) (Survey A) and all member hospitals of the National Health Organization, NHO (Survey B). The four prefectures were selected based on the training condition. The NHO plays a key role in the implementation of policy-based

health care for the Japanese government. This paper mainly reports the results of the NHO survey.

Method

Major items of the survey were: (1) characteristics of individual hospitals, (2) numbers of nurses and their careers, (3) numbers of newly hired nurses and the training for such nurses, (4) staff in charge of training, (5) training programs for newly hired nurses, and (6) acceptance of trainees from other hospitals. The goals of education for newly hired nurses include acquisition of the skills for supporting patients in regards to eating, urination/defecation, activity/resting, and grooming/dressing (MHLW, 2004). To assure that newly hired nurses can be trained to master these skills during on-the-job training, it seems necessary to carry out post-graduate training in individual wards. We therefore also investigated the number of wards and the number of nurses working at night in such wards at each hospital.

Regarding the ethical aspects of this survey, we made it clear that the decision as to whether or not to answer the questions could be made at the discretion of each hospital and that refusal to cooperate with this survey would cause no disadvantage to the hospital concerned. We also promised not to use any expression allowing the identification of any particular facility in the publication of our survey results. A document outlining these ethical considerations and guarantees was included with each mailed questionnaire.

The questionnaire for survey A was delivered to 1,935 hospitals and responses were collected from 440 hospitals (22.7%). The response collection rate was high for national high-level specialized medical care centers operated by the MHLW, “National Centers” (80.0%). The response rate from hospitals operated by independent administrative corporations was 65.0% ; 57.1% for hospitals attached to national university corporations, national university hospitals; 54.4% for hospitals operated by local governments, and 51.9% for hospitals operated by private universities. The response collection rate was as low as 17.5% for hospitals operated as medical corporations, which accounted about 60% of all facilities investigated. The collection rate did not differ markedly among different prefectures, ranging from 21 to 24%.

In Survey B, all hospitals operated by the NHO were investigated. The questionnaire for Survey B was mailed to 133 facilities, excluding the hospitals located in the four prefectures investigated in Survey A. Responses were collected from 102 of these hospitals (76.7%). Analysis was based on responses

from these 102 hospitals plus the 7 hospitals of the NHO which had returned Survey A questionnaires with their names entered into the responses (109 hospitals in total). The 109 hospitals analyzed in Survey B account for 72.2% of all the NHO hospitals (n = 151).

Results

Characteristics of individual hospitals

Fourteen (12.8%) of the facilities analyzed were hospitals with special functions, 47 (43.1%) were hospitals supporting community medical care, and 39 (35.8%) were hospitals designated for clinical training. Accreditation by the Japan Council for Quality Health Care has been obtained by 18 hospitals (15.6%).

When the range was analyzed, hospitals with 300-399 beds accounted for the highest percentage (31.2%, 34 hospitals), followed by hospitals with 400-499 beds (24.8%, 27 hospitals). The mean number of beds per hospital was 370.5. The total number of approved beds in all respondent hospitals was 40,380. Of these, 77.1% (31,114 beds) were for routine care, 4.1% (1,636 beds) were for chronic care, 9.2% (3,735 beds) were for psychiatric patients, 0.0% (18 beds) were for infected patients and 6.9% (2,790 beds) for tuberculosis patients. When the number of wards per hospital was analyzed, hospitals with 5-9 wards accounted for the highest percentage (65.1%, 71 hospitals), followed by hospitals with 10-14 wards (22.0%, 24 hospitals). The largest number of wards per hospital was nearly 20.

When the number of inpatients as of December 1, 2004 was analyzed, hospitals with 200-299 inpatients accounted for the highest percentage (34.9%, 38 hospitals), followed by hospitals with 300-399 inpatients (28.4%, 31 hospitals). The mean number of inpatients per hospital was 316.2.

Nursing staff

The number of nursing staff members counted as of April 1, 2004 at the 108 hospitals analyzed did not include those from one hospital where the corresponding entry was not provided in the returned questionnaire. At those that did answer, there were 17,394 permanently employed nurses and 669 part-time nurses (converted on the basis of permanently employed nurses). In 2004, 2,036 nurses were hired and the number of new graduates hired was 1,339. The numbers of public health nurses were 3 (permanent employees) and 0 (part-timers; converted on the basis of permanent employees). In 2004, 2 public health nurses were hired, and they were new graduates. The numbers of

midwives were 471 (permanent employees) and 8 (part-timers). In 2004, 55 midwives were hired, and the number of new graduates hired as midwives was 39. The numbers of licensed practical nurses (LPN) were 1,224 (permanent employees) and 63 (part-timers). In 2004, 40 LPN were hired, and the number of new graduates hired as LPN was 7.

The total number of nursing staff members (nurses, public health nurses, midwives and LPN) was 19,832. The total number of new graduates hired as nurses, public health nurses, midwives and LPN was 1,387, accounting for 7.0% of the total nursing staff.

The mean length of time served by nursing staff members at each hospital was 10.2 years. This duration was less than 3 years at 1 hospital (0.9%), 3-6 years at 11 hospitals (10.1%), 6-10 years at 37 hospitals (33.9%), 10-15 years at 38 hospitals (34.9%), and over 15 years at 13 hospitals (11.9%).

New graduates

Statistics on those who had graduated less than one year earlier from nursing school were analyzed. At 108 hospitals, excluding the 1 hospital that did not provide an answer, the number of new graduates assigned (total: 1,386) was 1,325 in wards (95.6%), 20 in outpatient clinics (1.4%), 35 in operating theaters (2.5%) and 6 in other units (0.4%). The total number of nursing staff members at each of the 109 hospitals is almost equal. The above-shown percentages may, therefore, be viewed as almost precisely reflecting the current trend in allocation of new graduates into various units of hospitals.

Percentage of new graduates among the total nursing staff in individual wards

Each hospital was asked to provide the highest and lowest percentages of new graduates among the total nursing staff in individual wards.

The highest percentage of new graduates per ward was < 10% at 23 hospitals (23.5%), ≥ 10 and < 20% at 49 hospitals (50.0%), ≥ 20 and < 30% at 19 hospitals (19.4%), ≥ 30 and < 40% at 2 hospitals (2.0%), ≥ 40 and < 50% at 3 hospitals (3.1%) and $\geq 50\%$ at 2 hospitals (2.0%).

The lowest percentage of new graduates per ward was smaller than 10% at 72 hospitals (73.5%) and the same or greater than 10% and smaller than 20% at 21 hospitals (21.4%). At 5 hospitals, the percentage of new graduates per ward was the same or greater than 20%, at a minimum.

When we inquired about the ideal percentage of new graduates among the total nursing staff members per ward, a majority (77 hospitals, 78.6%) indicated the ideal percentage to

be 10 to 19%, and the mean percentage was 12%.

Educational environments

When asked about the availability of libraries, 8 hospitals (7.3%) believed they had a satisfactory library, 43 hospitals (39.4%) felt they had a relatively satisfactory library and 55 hospitals (50.5%) answered that they did not have a satisfactory library. When asked about the availability of internet connection services, 12 hospitals (11.0%) reported satisfactory services, 26 hospitals (23.9%) relatively satisfactory, and 69 (63.3%) reported unsatisfactory internet connections. The availability of skill training space was said to be satisfactory at 1 hospital (0.9%), relatively satisfactory at 10 hospitals (9.2%), and unsatisfactory at 96 hospitals (88.1%).

Training for new graduates (linkages with other facilities)

When asked about training for new graduates hired as nursing staff, 7 hospitals (6.4%) answered that they were providing training jointly with other hospitals, 32 hospitals (29.4%) were utilizing the training provided by the Japanese Nursing Association or others, and 66 hospitals (60.6%) had no linkage with an outside organization in training new graduates.

Staff in charge of education

Educational staff in the nursing department

Of all respondent hospitals, 92 (84.4%) had staff in charge of education within the nursing department and 17 (15.6%) had no such staff within the nursing department. Staff members responsible for education alone were stationed at 2 hospitals (2.2%), staff responsible for education and other duties were employed at 86 hospitals (93.5%).

Educational staff in each ward

Seventy nine hospitals (72.5%) had educational staff in each ward and 29 hospitals (26.6%) had no educational staff in any ward. Of the 79 hospitals, 77 (97.5%) had staff members responsible for education and some other duties. No hospital had staff members responsible for education alone. In total, 71.7% of all wards (517 out of 721 wards) had some educational staff members.

Trainers in each ward

Of all respondent hospitals, 105 (96.3%) had preceptors on each ward, and only 1 hospital (0.9%) had no such trainer.

When asked about the method of assigning trainers, a majority (75.2%, 79 out of 105 hospitals) answered that they allocated one trainer to each new graduate for the purpose of continued training, and the second highest percentage of hospitals (23.8%, 25 hospitals) assigned the trainer on successive days, selecting

from the entire nursing staff.

Availability of checklists for the assessment of goal achievement by new graduates

When asked about the availability of checklists for use by educational staff or trainers in assessment of the goals achieved by new graduates, 105 hospitals (96.3%) answered that they had such checklists while 4 hospitals (3.7%) had no such lists.

Educational programs for new graduates

Of all respondent hospitals, 107 (98.2%) had educational programs for new graduates hired as nursing staff.

The duration of the off-job training for new graduates was most frequently 7-10 days per year (mean: 8.2 days per year).

Educational considerations and mental support systems

When asked about mental health support systems for new graduates, 59 hospitals (54.1%) answered that they were providing support systems, while 37 hospitals (33.9%) were providing no such support. Only one hospital had experts in mental health support for new graduates (e.g., liaison nurses). At 26 hospitals (23.9%), some measures were being taken to ensure the labor force or manpower needed for the implementation of training or education for new graduates hired as nursing staff was in place.

Development of the nursing care capabilities of new graduates

Each hospital was asked to make a subjective evaluation of the nursing care capabilities possessed by new graduates at the time of recruitment and again at 3, 6 and 9 months after recruitment if the capability at one year after recruitment was deemed to be 100%. The time course of development in caring capability did not differ markedly between Surveys A and B. The capability was only about 10% at the time of recruitment relative to the capability at 12 months. It was about 40% at 3 months, about 60% at 6 months and about 80% at 9 months, each relative to the capability at 12 months after recruitment.

Discussion

Developing provisional tentative standards

Considering the current status of educational systems for new graduates, the number of hospitals that provide satisfactory educational systems was calculated. We would like to distinguish between "satisfactory hospitals" and other hospitals when setting provisional standards.

Even if these provisional standards are met, it would not

necessarily mean that the training of newly hired nurses is being conducted satisfactorily. Conversely, even when these standards are not met, satisfactory training of newly hired nurses may be accomplished through measures unique to individual hospitals. Our evaluation is aimed at examining how many hospitals satisfy the conditions listed as “indispensable” or “desirable” in the report from the MHLW (MHLW, 2004), and to what extent they are being satisfied.

To make these provisional standards, we checked the distribution of each item carefully, and identified the items for which 50-90% of all hospitals in Survey A and B have. If we use the items that almost all hospitals have adopted, or those that many hospitals could not adopt, we are unable to classify satisfactory hospitals. But by considering very important components, such as preceptor’s clinical careers and training systems for invasive care, we set strict standards. In Japan, it is difficult to master invasive care procedures during under graduate education (Kawamura et al., 2001; JNA, 2003), and many new nurses make mistakes or near-misses early in their careers (Kawamura et al., 2000). So, we tried to select hospitals at which new nurses can master these invasive care procedures through group education and OJT.

We surveyed all hospitals in four prefectures, and all hospitals under the NHO. The response rate was high for National Centers (80.8%), hospitals operated by independent administrative corporations (65.0% in Survey A, and 76.7% in Survey B), hospitals operated by local governments (54.4%) and hospitals operated by private universities (51.9%). Accordingly, our standards especially reflect the current status of the majority of public hospitals that are training many new nurses.

The results of our analyses revealed that the following 10 items should be adopted in the tentative standards. Realistic criteria for the practical evaluation of individual items were prepared on the basis of the survey results. We additionally attempted to prepare standards reflecting the characteristics of individual wards and calculated the number of newly hired nurses who can be trained. However, since this survey was conducted on hospitals (not on individual wards) and because the entries made by respondent hospitals about the number of wards and the number of nurses working in the night shift contained some errors requiring correction, the results of these additional attempts were not incorporated into the tentative standards presented in this study.

(1) Staff responsible only for education stationed at the Nursing Department

The Report (MHLW, 2004) recommends that some staff members responsible solely for training be stationed within

nursing departments. Even among hospitals where educational staff were available, the number with staff responsible solely for education was low (21.8% in Survey A and 2.2% in Survey B). Therefore, in the present study, one point was awarded to hospitals where at least one member of staff for education (irrespective of whether or not that person responsible solely for education) was available.

This criterion was satisfied by 82.3% of hospitals in Survey A, and 84.4% of hospitals in Survey B.

(2) Educational staff stationed in each ward

None of the hospitals surveyed had staff responsible solely for education stationed in each ward. One point was awarded to hospitals where at least one staff in charge of education (even when he/she had some additional duties as well) was present.

This criterion was satisfied by 73.4% of hospitals in Survey A, and 72.5% of hospitals in Survey B.

(3) Trainers (preceptors and others) with a clinical career of over 3 years to be stationed at each ward

The Report (MHLW, 2004) recommends that it would be desirable to have trainers with a clinical career experience of at least 2 years or someone who is capable of providing not only education about knowledge and skills, but also emotionally stable education and training. This means that it is essential to select trainers from suitable candidates with a clinical career experience of over 3 years. Therefore, one point was awarded to hospitals where each ward had some trainers (preceptors, and others) selected using both of the following criteria: (1) nursing staff with a clinical career experience of over 3 years, and (2) nursing staff capable of providing both advice and support.

This criterion was satisfied by 33.4% of hospitals in Survey A, and 46.8% of hospitals in Survey B.

(4) Training programs for cultivation of trainers

One point was awarded to hospitals with their own training programs or those that had access to outside training programs. The desirable contents of the training were not investigated in the present study, as improvement in this area can be expected in the future.

This criterion was satisfied by 65.9% of hospitals in Survey A, and 79.8% of hospitals in Survey B.

(5) Educational programs for new graduates hired as nurses

One point was awarded to hospitals where training programs for new graduates hired as nurses were available or where new graduates hired as nurses were undergoing training at their own or some outside hospitals.

This criterion was satisfied by 78.6% of hospitals in Survey A, and 98.2% of hospitals in Survey B.

(6) Manuals to be used for training in nursing care

The Report (MHLW, 2004) points out: "Each hospital should prepare nursing standards, manuals, etc., for use in the training of newly hired nurses." One point was awarded to hospitals where the director of nursing felt as satisfactory or almost satisfactory manuals were available.

This criterion was satisfied by 93.2% of hospitals in Survey A, and 99.1% of hospitals in Survey B.

(7) Group education or clinical education in nursing skills that can affect patient safety

The Report (MHLW, 2004) points out: "It is advisable that highly invasive nursing interventions by newly hired nurses be performed in steps after adequately confirming that these nurses have learned these interventions well during group education, etc." One point was awarded to hospitals where group education had been carried out and OJT had been provided on at least 9 of the 11 nursing skills considered to be particularly related to patient safety.

The 11 nursing skills decided upon are: injection procedure and skills, drip infusion procedure and skills, knowledge about drugs for injection, knowledge about oral dose drugs, transfusion procedure and skills, I.V. fluid pump manipulations, syringe pump manipulations, respiratory manipulations, care of emergency/critical patients, prevention of infection, and risk management.

This criterion was satisfied by 38.2% of hospitals in Survey A, and 45.0% of hospitals in Survey B.

(8) Availability of checklists for goal achievement assessment of new graduates

The Report (MHLW, 2004) states: "Evaluation should be made using a table of evaluation related to achievement of goals (self-evaluation and third party evaluation)." One point was awarded to hospitals where a checklist for evaluation was available.

This criterion was satisfied by 82.5% of hospitals in Survey A, and 96.3% of hospitals in Survey B.

(9) Availability of certain special educational environments

The Report (MHLW, 2004) further notes that it will be useful to consider adopting methods of learning making use of IT, etc., in connection with the introduction of IT into training for newly hired nurses. Regarding the availability of "skill training space," 80-90% of the hospitals indicated that the space available was inadequate. This factor was therefore excluded from the analysis. One point was awarded to hospitals where the director of nursing believed the library and/or Internet connection to be satisfactory or relatively satisfactory.

This criterion was satisfied by 65.9% of hospitals in Survey A, and 57.8% of hospitals in Survey B.

(10) Emotional support to new graduates

The Report (MHLW, 2004) also states: "It is desirable that a support system (consultation for new graduates, etc.) by specialists in emotional support be established." The percentage of hospitals with specialists available to give emotional support was less than 20%. Therefore, one point was awarded to hospitals which indicated that such support was available.

This criterion was satisfied by 50.9% of hospitals in Survey A, and 54.1% of hospitals in Survey B.

The total of the scores for the items mentioned above is called the tentative standard score. The number of hospitals that responded to all of the 10 questions was 269 in Survey A, and 85 in Survey B. In both Survey A and B, the peak tentative standard score was 9.

In Survey B, the tentative standard score was 9 or higher at 28 hospitals, accounting for 32.9% of the 85 hospitals for which the score could be determined. The number of new graduates hired as nurses at these 28 hospitals in April 2004 was 460.

The tentative standard score was 8 or higher at 46 hospitals, accounting for 54.1% of the 85 hospitals mentioned above. At these 46 hospitals, 766 new graduates were hired as nurses in April 2004.

A trial calculation

The percentage of nurses who can be trained at each hospital is set at 10%. This percentage is based on the finding from this questionnaire survey that the ideal percentage of new graduates among all the nurses in a given ward averaged 12%. This percentage is consistent with the results of Survey A, and previous study (Saito et al., 2001). Considering that some percentage of nurses are assigned to units other than wards, we judge that assigning 10% of all new graduates to wards will allow the smooth training of newly hired nurses at wards, without posing an excessive burden on other nurses.

The total number of hospitals operated under the NHO was 151. Calculation of the tentative standard score was possible for 85 (56.3%) of these hospitals. The tentative standard score was 9 or higher at 28 hospitals, accounting for 32.9% of the 85 hospitals for which calculation of the tentative standard score was possible. The number of new graduates hired as nurses at these 28 hospitals in April 2004 was 460. The total number of nurses at 28 hospitals was 5,586; 10% of this number is 558.6. The tentative standard score was 8 or higher at 46 hospitals, accounting for 54.1% of the 85 hospitals for which calculation of the tentative standard score was possible. The number of new graduates hired as nurses at these 46 hospitals in April 2004 was

766. The total number of nurses at 46 hospitals was 9,194; 10% of this number is 919.4.

This value was divided by the number of hospitals (85 hospitals) for which the tentative standard score could be calculated and multiplied by the total number of hospitals (151), to yield the following numbers:

Number of hospitals with a score of 9 or higher: 50
(= $28 \times 151/85$)

Number of new graduates hired as nurses: 817
(= $460 \times 151/85$)

Number of trainable new graduates: 992
(= $558.6 \times 151/85$)

Number of hospitals with a score of 8 or higher: 82
(= $46 \times 151/85$)

Number of new graduates hired as nurses: 1,361
(= $766 \times 151/85$)

Number of trainable new graduates: 1,633
(= $919.4 \times 151/85$)

On the percentage of nurses who can be trained at each facility

We estimated the percentage of nurses who can be trained at each hospital to be 10%. In Japan, life-long employment is usual, especially in the facilities operated under the NHO which is under the Japanese government. Employee promotions and pay increases are usually age-related. At most hospitals, new graduates or other nurses are hired to fill vacancies arising from retirements. Accordingly, it is difficult for each hospital to raise the number of nurses on their staff. If each hospital can accept trainees without counting them as nursing staff members, this percentage can go up more than 10%.

Some hospitals that responded Survey A said they were willing to accept trainees without counting them as nursing staff members in connection with the cap on staff numbers. Some of them also said that it is possible to accept trainees (about one trainee on each ward) after the newly hired nursing staff at their own hospitals accumulated a certain degree of experience (after about 7 or 8 months) if training is provided for well-defined items. At the time of recruitment, new graduates hired as nursing staff had only about 10% of the nursing care capability they would possess 12 months after recruitment. Their capability was rated as being about 40% at 3 months, about 60% at 6 months and about 80% at 9 months after recruitment, each relative to the capability rated at 12 months after recruitment. We depicted a productivity curve on the basis of the data collected in a previous survey (Takeo et al., 2001). The curve indicates that about 1 year is needed for a new graduate to become able to provide

somewhat satisfactory nursing care.

At present, each new graduate hired as a nursing staff member is counted as one member of the nursing staff in the context of the upper limit of the staff number at a given hospital. This practice places a load on both new graduates and the clinical team. When patient safety is discussed, education of nursing staff is indispensable. It is desirable for the central government to devise measures to ensure the safety of nursing care.

The limitations of this research

Our evaluation is aimed at examining how many hospitals satisfy the conditions listed as “indispensable” or “desirable” in the report from the MHLW (MHLW, 2004). The questionnaire was disseminated to all hospitals in four prefectures and all hospitals under the NHO. This means the results show the present situation. If the situation surrounding medical facilities changes, our provisional standards should be changed. Our provisional standards are not absolute but relative, and changeable according to the real situation. We intended to estimate the number of new nurses who can get suitable new training using the result of four prefectures and NHO. It is an option that those hospitals deemed to provide superior training will develop model projects to promote the education of newly hired nurses.

Conclusions

At the request of the Nursing Division of the MHLW, we have prepared tentative standards for the official recognition of hospitals providing training for new graduates hired as nurses. We calculated the number of new graduates who can be trained at individual hospitals by investigating all the NHO hospitals. The response collection rate was high at hospitals operated by independent administrative corporations include NHO. This suggests that these medical facilities are highly concerned with the promotion of training for new graduates hired as nurses. One possible option based on the results will be for model projects to be conducted at these hospitals for the promotion of training for newly hired nursing staff.

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国立病院機構における仮設認定基準を用いた新卒看護師育成可能人数試算

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【要旨】 2004年3月に厚生労働省から出された「新人看護職員の臨床実践能力の向上に関する検討会報告書」には新人教育の到達目標・指導指針が示されているが、実際にこのような新人教育を行っている施設が全国にどれくらいあるのか、そこで何人くらいの育成が可能なのかについてはわかっていない。そこで、厚生労働省報告書が新卒看護師研修施設として備えることが望ましいとする教育体制や学習環境について質問紙調査を行い、その結果をもとに10項目からなる仮設基準を作成、それを満たす施設がどの程度あるのか、そこで何人くらいの育成が可能なのか試算を行った。調査は、東京・神奈川・大阪・兵庫(調査A)と、独立行政法人国立病院機構(調査B)において2005年に行った。調査Aと調査Bとでは回収率の傾向が大きく違ったため、同じ仮設基準を用いたものの、異なる計算方法で試算を行った。ここでは、主として国立病院機構における調査結果を報告する。分析対象は109で、これは国立病院機構病院全体の72.2%にあたる。仮設基準10項目の合計を仮設基準スコアとし、試算を行った。試算の結果、仮設基準スコア9点以上の施設は50施設、育成している新卒看護職員数817人、育成可能新卒者数(看護職員の1割)は992人であった。仮設基準スコア8点以上でみると、該当施設は82施設、育成している新卒看護職員数1,361人、育成可能新卒者数は1,633人であった。新人看護職員研修の推進にあたり、これらの医療施設でモデル事業を行うことも今後の可能性の一つであろう。
