Feelings about Nursing Assistants that Enhance the Work Motivation of Japanese Registered Nurses and Licensed Practical Nurses

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Abstract: Registered nurses and licensed practical nurses have received professional education, but to enhance their work motivation it is necessary to create work environments in which they can concentrate on their jobs as specialists. One of the methods to develop such work environments is to use nursing assistants effectively. We investigated professional nurses’ feelings toward nursing assistants and then examined the associations between those feelings and their work motivation. The analyzed subjects were 2,170 female nurses working in 25 hospitals with from 55 to 458 beds. The average age of the respondents was 38.0 (standard deviation, 10.6 years). Factor analyses extracted four factors of professional nurses’ feelings toward nursing assistants: 1. knowledge related to healthcare, 2. nursing assistants’ attitudes toward work, 3. human relations, and 4. distinguishing between professional nurses’ work and nursing assistants’ work. Using multiple linear regression analysis, our results revealed that scores of maintaining a high motivation to work thanks to nursing assistants became lower as the ages of the respondents increased. Scores of maintaining a high motivation to work thanks to nursing assistants became higher as professional nurses gained satisfaction from: knowledge related to healthcare, nursing assistants’ attitudes toward work, and human relations. Hospital managers should consider these findings to improve working environments in which professional nurses can feel motivated to work.

Keywords: nursing assistants, registered nurses, licensed practical nurses, working environments, work motivation.

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departments of hospitals that does not require professional expertise. There is a wide variety in the actual contents of their work, e.g., cleaning, laundry, waste disposal, and assisting in patient care, which allow professional nurses to use their time to do their own specialized jobs. Nursing assistants are indispensable workers in nursing departments of hospitals.

As it is unclear, however, whether or not merely employing nursing assistants can enhance professional nurses’ work motivation, hospital managers should consider how to use nursing assistants effectively. For example, many professional nurses spend their time doing simple tasks that do not require expertise, such as laundry, cleaning, and waste disposal [5]; if they must spend time doing such simple tasks, employing nursing assistants would not be very effective. Moreover, because nursing assistants do various kinds of work, hospital managers should try to provide enough opportunities for them to obtain the necessary knowledge to do jobs related to healthcare [3, 4]. If hospital managers do not provide nursing assistants with appropriate educational opportunities, professional nurses may not enjoy the fullest benefits of the work of nursing assistants.

Hospital managers need to properly understand professional nurses’ feelings toward nursing assistants and then reflect upon those feelings in order to help them improve their working environments. Previous studies have suggested ways of using nursing assistants more effectively [5-8], for example: measuring the time professional nurses spend doing simple tasks that should be done by nursing assistants (e.g., laundry, cleaning, and waste disposal) [5]; improving nursing assistants’ work motivation [6]; and investigating the predictors of nursing assistants’ desire to be helpful to professional nurses [7]. To our knowledge, however, there are no studies that examine the associations between professional nurses’ feelings toward nursing assistants and professional nurses’ work motivation.

It is necessary for hospital managers to use nursing assistants more effectively to create proper work environments in which professional nurses can feel motivated to work. The objective of the present study was to investigate the predictors that enhance professional nurses’ motivation to work thanks to nursing assistants. We first investigated professional nurses’ feelings toward nursing assistants, then examined the associations between those feelings and professional nurses’ motivation to work thanks to nursing assistants.

**Methods**

**Definitions of terms**

In the present study, both “registered nurses” and “licensed practical nurses” are denoted as “professional nurses.” In the nursing department of hospitals, there are workers who are hired to help registered nurses and licensed practical nurses do their jobs; all such workers are called “nursing assistants.”

**Participating hospitals**

The majority of hospitals in Japan are small- and medium-sized, with fewer than 500 beds [9]. We collected data on professional nurses working in such hospitals. Twenty-five hospitals with from 55 to 458 beds were included in this study, among which 24 were located in Kanagawa Prefecture; the other was in Nagano Prefecture. We collected data by requesting nursing directors to cooperate in this study through their and our professional connections. Random sampling was not used.

**Subjects and distribution of questionnaires**

The subjects were 3,725 professional nurses. Because the number of male professional nurses was much smaller than that of females, males were excluded as subjects in the present study. The nursing directors of hospitals were also excluded as subjects because they are hospital managers. Anonymous self-administered questionnaires (original version in Japanese), Japanese explanatory documents of the study, and envelopes for submission of the completed questionnaires were distributed to those 3,725 subjects between February and mid-March in 2014.

**Outline of the questionnaire**

The questionnaire was composed of: 1) professional nurses’ feelings toward nursing assistants and maintaining a high motivation to work thanks to nursing assistants; 2) nursing assistants’ characteristics; 3) professional nurses’ feelings toward certified care workers who work in nursing departments in hospitals; and
4) professional nurses’ characteristics. The objective of the present study was to investigate the predictors that would enhance professional nurses’ motivation to work thanks to nursing assistants. Because category 3) above was not related to this study, it was not included in the analyses. The data regarding category 3) was previously reported [8]. The contents of categories 1) and 2) are shown in the Appendix.

Questionnaire items and hypotheses

The twenty-one items regarding professional nurses’ feelings toward nursing assistants and maintaining a high motivation to work thanks to nursing assistants were divided into professional nurses’ feelings toward nursing assistants (appendix: 1–20) and maintaining a high motivation to work thanks to nursing assistants (appendix: 21). We hypothesized that there would be 5 factors in professional nurses’ feelings toward nursing assistants: human relations (appendix: 1–4); distinguishing between professional nurses’ work and nursing assistants’ work (appendix: 5–8); nursing assistants’ attitudes toward work (appendix: 9–12); not being worried about the quality of nursing (appendix: 13–16); and not being worried about work-related accidents (appendix: 17–20). Maintaining a high motivation to work thanks to nursing assistants (appendix: 21) was determined by the responses to “I maintain a high motivation to work thanks to nursing assistants in this hospital”. For each of these 21 items, the subjects gave their responses using a 7-point scale: definitely disagree, mostly disagree, somewhat disagree, neither agree nor disagree, somewhat agree, mostly agree, and definitely agree.

The characteristics of the nursing assistants were: many nursing assistants older than I, and many nursing assistants working in this hospital longer than I. We asked the subjects to respond yes or no to these two items. The first author investigated how to use nursing assistants effectively [5, 6]. While conducting these studies, the first author often heard from staff members at nursing sites that when a nursing assistant is older than a professional nurse, that young professional nurse respects the older nursing assistant and voluntarily does tasks that nursing assistants should do. Professional nurses may hesitate to ask older nursing assistants to help them with their work because they respect older people. In the same way, professional nurses may hesitate to give instructions to nursing assistants who have worked in their hospitals longer than they because they respect senior workers. We hypothesized that these two variables decrease the motivation to work thanks to nursing assistants.

The characteristics of the professional nurses were: age, nursing certification (registered nurse/licensed practical nurse), and employment status (full-time worker/part-time worker).

Statistical analyses

Factor analyses (the principal factor method and promax rotation) of those items regarding feelings toward nursing assistants were performed. One to 7 points were given from definitely disagree to definitely agree for each item. Factors with eigenvalues of ≥1 were retained. The Cronbach’s α of each factor was also calculated.

Pearson’s correlation coefficients were calculated or Mann-Whitney U tests were conducted to compare differences between maintaining a high motivation to work thanks to nursing assistants and the other variables. Multiple linear regression analysis was also conducted. Maintaining a high motivation to work thanks to nursing assistants was the dependent variable. The professional nurses’ feelings toward nursing assistants, nursing assistants’ characteristics, and professional nurses’ characteristics were the independent variables.

Ordinal variables were used as continuous variables in the present study. These methods are commonly used in questionnaire surveys [10]. Various types of studies (e.g., patient satisfaction, job satisfaction, and health-related behaviors) have been conducted using these methods [2, 6–8, 11, 12]. PASW® Statistics 18.0 was used for all statistical analyses. The level of significance was set at P < 0.05.

Collection of questionnaires

The completed questionnaires were collected in collection boxes in the participating hospitals approximately 1 week after distribution. The subjects sealed the completed questionnaires in envelopes to ensure that truthful answers were obtained.
Ethics

Japanese explanations of the present study, e.g., the purpose and methods of the study and clarification of the concept of voluntary cooperation, in addition to the anonymous self-administered questionnaires with return envelopes, were distributed to all 3,725 subjects. The ethics committee of Kitasato University approved this study (No. B13-199).

Results

The distributions of the analyzed subjects and their characteristics are shown in Table 1. There were 2,503 questionnaires collected for a collection rate of 67.2%.

Questionnaires that had one or more missing values in the items used in this study were excluded. There were 2,170 questionnaires used for the analyses (response rate, 58.3%). The average age of the 2,170 respondents was 38.0 years old (standard deviation, 10.6).

Age had a negative correlation with maintaining a high motivation to work thanks to nursing assistants. Regarding employment status, many nursing assistants older than 1, and many nursing assistants working in this hospital longer than 1, Mann-Whitney U tests show there were significant differences in the maintaining a high motivation to work thanks to nursing assistants.

Factor loadings of professional nurses’ feelings to-

Table 1. Distributions of analyzed subjects and characteristics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Maintaining a high motivation to work thanks to nursing assistants</th>
<th>Total</th>
<th>Pearson’s correlation coefficient and Mann-Whitney U test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Definitely disagree</td>
<td>Mostly disagree</td>
<td>Somewhat disagree</td>
</tr>
<tr>
<td>Age ≤ 29</td>
<td>26 (4.9)</td>
<td>40 (7.5)</td>
<td>49 (9.2)</td>
</tr>
<tr>
<td>30–39</td>
<td>61 (8.4)</td>
<td>63 (8.7)</td>
<td>67 (9.2)</td>
</tr>
<tr>
<td>40–49</td>
<td>34 (6.2)</td>
<td>59 (10.8)</td>
<td>51 (9.3)</td>
</tr>
<tr>
<td>≥ 50</td>
<td>23 (6.3)</td>
<td>44 (12.1)</td>
<td>31 (8.5)</td>
</tr>
<tr>
<td>Nursing certification</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Registered nurse</td>
<td>130 (6.7)</td>
<td>175 (9.0)</td>
<td>181 (9.3)</td>
</tr>
<tr>
<td>Licensed practical nurse</td>
<td>14 (6.2)</td>
<td>31 (13.7)</td>
<td>17 (7.5)</td>
</tr>
<tr>
<td>Employment status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full-time worker</td>
<td>124 (6.7)</td>
<td>186 (10.1)</td>
<td>178 (9.7)</td>
</tr>
<tr>
<td>Part-time worker</td>
<td>20 (6.1)</td>
<td>20 (6.1)</td>
<td>20 (6.1)</td>
</tr>
<tr>
<td>Many nursing assistants</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>older than 1</td>
<td>101 (6.3)</td>
<td>147 (9.2)</td>
<td>155 (9.7)</td>
</tr>
<tr>
<td>No</td>
<td>43 (7.6)</td>
<td>59 (10.4)</td>
<td>43 (7.6)</td>
</tr>
<tr>
<td>Many nursing assistants</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>working in this hospital</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>longer than 1</td>
<td>66 (5.3)</td>
<td>112 (9.1)</td>
<td>104 (8.4)</td>
</tr>
<tr>
<td>No</td>
<td>78 (8.4)</td>
<td>94 (10.1)</td>
<td>94 (10.1)</td>
</tr>
<tr>
<td>Total</td>
<td>144 (6.6)</td>
<td>206 (9.5)</td>
<td>198 (9.1)</td>
</tr>
</tbody>
</table>

*: Pearson’s correlation coefficient, **: Mann-Whitney U test. To calculate Pearson’s correlation coefficient or conduct Mann-Whitney U tests, the following system was used. Concerning maintaining a high motivation to work thanks to nursing assistants, 1 to 7 points were given in the order from definitely disagree to definitely agree, respectively. Concerning age, the actual age was used as a continuous variable, (%): %, N = 2,170
ward nursing assistants are shown in Table 2. Factor analysis (the principal factor method and promax rotation) of the 20 items of professional nurses’ feelings toward nursing assistants was performed (see the Appendix). Factors with eigenvalues of $\geq 1$ were retained. Item 5 (Meticulously organized work) and item 15 (Attention to patient safety) were excluded because the factor loadings were $<|0.4|$. We subsequently conducted factor analysis (the principal factor method and promax rotation) again for the other 18 items in the study. We finally discovered that professional nurses have four different kinds of feelings toward nursing assistants: knowledge related to healthcare; nursing assistants’ attitudes toward work; human relations; and distinguishing between professional nurses’ work and nursing assistants’ work. These four factors accounted for 72.1% of the total variance of the 18 items before the rotation, and the eigenvalues of factors 1–4 were: 8.497, 2.029, 1.409 and 1.044, respectively. The Cronbach’s $\alpha$ of these four factors were 0.917 for knowl-

### Table 2. Factor analyses of professional nurses’ feelings toward nursing assistants and the Cronbach’s $\alpha$ of each factor

<table>
<thead>
<tr>
<th>Factor</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Knowledge related to healthcare (Cronbach’s $\alpha = 0.917$)</td>
<td>0.928</td>
<td>-0.078</td>
<td>0.013</td>
<td>-0.002</td>
</tr>
<tr>
<td>18. Nursing assistants’ knowledge about work-related accidents</td>
<td>-0.031</td>
<td>0.966</td>
<td>0.012</td>
<td>-0.039</td>
</tr>
<tr>
<td>19. Recognition of the necessity of education regarding work-related accidents</td>
<td>0.086</td>
<td>0.893</td>
<td>-0.042</td>
<td>-0.044</td>
</tr>
<tr>
<td>16. Nursing assistants’ requisite knowledge of high-quality nursing services</td>
<td>-0.044</td>
<td>0.841</td>
<td>0.035</td>
<td>0.020</td>
</tr>
<tr>
<td>14. Consideration that nursing-related knowledge affects the quality of nursing</td>
<td>0.408</td>
<td>0.304</td>
<td>0.001</td>
<td>0.029</td>
</tr>
<tr>
<td>13. Recognition of the necessity of education to improve the quality of nursing</td>
<td>0.550</td>
<td>0.162</td>
<td>-0.040</td>
<td>0.088</td>
</tr>
<tr>
<td>15. Distinguishing between professional nurses’ work and nursing assistants’ work (Cronbach’s $\alpha = 0.805$)</td>
<td>0.553</td>
<td>-0.027</td>
<td>0.021</td>
<td></td>
</tr>
<tr>
<td>3. Human relations (Cronbach’s $\alpha = 0.824$)</td>
<td>0.886</td>
<td>0.035</td>
<td>0.893</td>
<td>0.020</td>
</tr>
<tr>
<td>4. Not taking a bossy attitude</td>
<td>0.012</td>
<td>0.039</td>
<td>0.029</td>
<td>0.494</td>
</tr>
<tr>
<td>4. Not taking an unkind attitude</td>
<td>0.012</td>
<td>0.039</td>
<td>0.029</td>
<td>0.494</td>
</tr>
<tr>
<td>2. Friendliness</td>
<td>0.022</td>
<td>0.240</td>
<td>0.494</td>
<td>0.049</td>
</tr>
<tr>
<td>1. Good relations</td>
<td>0.022</td>
<td>0.240</td>
<td>0.494</td>
<td>0.049</td>
</tr>
<tr>
<td>7. Professional nurses not doing nursing assistants’ work</td>
<td>0.550</td>
<td>-0.027</td>
<td>0.021</td>
<td></td>
</tr>
<tr>
<td>6. Professional nurses not spending much time doing nursing assistants’ work</td>
<td>0.886</td>
<td>0.035</td>
<td>0.893</td>
<td>0.020</td>
</tr>
<tr>
<td>8. Properly assigned work for professional nurses and nursing assistants</td>
<td>-0.042</td>
<td>0.274</td>
<td>0.573</td>
<td>0.036</td>
</tr>
</tbody>
</table>

Inter factor correlations

| 1. Knowledge related to healthcare | 1 |
| 2. Nursing assistants’ attitudes toward work | 0.694 | 1 |
| 3. Human relations | 0.376 | 0.542 | 1 |
| 4. Distinguishing between professional nurses’ work and nursing assistants’ work | 0.475 | 0.560 | 0.428 | 1 |

To conduct factor analyses, the following system was used. Concerning each item of professional nurses’ feelings toward nursing assistants shown in the appendix 1–20 of category 1), 1 to 7 points were given from definitely disagree to definitely agree. Factor analysis (the principal factor method and promax rotation) of the 20 items of professional nurses’ feelings toward nursing assistants was performed. Because the factor loadings of 5. meticulously organized work and 15. attention to patient safety were $<|0.4|$, those two items were excluded. We subsequently conducted factor analysis (the principal factor method and promax rotation) again. Bold-faced type shows factor loadings $\geq 0.4$. To calculate the Cronbach’s $\alpha$ of each factor, 1 to 7 points were given in the order from definitely disagree to definitely agree, respectively. Regarding the hypotheses of the analyses, see the subheading: questionnaire items and hypotheses. N = 2,170
edge related to healthcare, 0.919 for nursing assistants’ attitudes toward work, 0.824 for human relations, and 0.805 for distinguishing between professional nurses’ work and nursing assistants’ work.

Pearson’s correlation coefficients and standardized partial regression coefficients are shown in Table 3. Scores of maintaining a high motivation to work thanks to nursing assistants had positive correlations with factor scores of knowledge related to healthcare, nursing assistants’ attitudes toward work, human relations, and distinguishing between professional nurses’ work and nursing assistants’ work. The significant variables in the results of multiple linear regression analysis were: knowledge related to healthcare, nursing assistants’ attitudes toward work, and human relations. The signs of standardized partial regression coefficients for these three factors were all positive. Age was also a significant variable. The sign of standardized partial regression coefficient for age was negative. The adjusted $R^2$ value was 0.443.

Table 3. Pearson’s correlation coefficients and the results of multiple linear regression analysis

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pearson’s correlation coefficient</th>
<th>$P$</th>
<th>Standardized partial regression coefficient</th>
<th>$P$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>–</td>
<td>–</td>
<td>–0.053</td>
<td>0.013</td>
</tr>
<tr>
<td>Nursing certification</td>
<td>–</td>
<td>–</td>
<td>–0.022</td>
<td>0.196</td>
</tr>
<tr>
<td>Employment status</td>
<td>–</td>
<td>–</td>
<td>–0.026</td>
<td>0.115</td>
</tr>
<tr>
<td>Many nursing assistants older than I</td>
<td>–</td>
<td>–</td>
<td>0.004</td>
<td>0.864</td>
</tr>
<tr>
<td>Many nursing assistants working in this hospital longer than I</td>
<td>–</td>
<td>–</td>
<td>0.022</td>
<td>0.212</td>
</tr>
<tr>
<td>Factor 1. Knowledge related to healthcare</td>
<td>0.586</td>
<td>&lt;0.001</td>
<td>0.259</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Factor 2. Nursing assistants’ attitudes toward work</td>
<td>0.634</td>
<td>&lt;0.001</td>
<td>0.367</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Factor 3. Human relations</td>
<td>0.438</td>
<td>&lt;0.001</td>
<td>0.096</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Factor 4. Distinguishing between professional nurses’ work and nursing assistants’ work</td>
<td>0.435</td>
<td>&lt;0.001</td>
<td>0.023</td>
<td>0.282</td>
</tr>
</tbody>
</table>

To calculate standardized partial regression coefficients and/or Pearson’s correlation coefficient, the following system was used. Concerning maintaining a high motivation to work thanks to nursing assistants, 1 to 7 points were given in the order from definitely disagree to definitely agree, respectively. Concerning age, the actual age was used as a continuous variable. The coding of dichotomous variables were: nursing certification (registered nurse = 1, licensed practical nurse = 0), employment status (full-time employee = 1, part-time employee = 0), many nursing assistants older than I (yes = 1, no = 0), and many nursing assistants working in this hospital longer than I (yes = 1, no = 0). Regarding each factor shown in Table 2, the factor scores were calculated and then used for the analyses. Regarding the hypotheses of the statistical model, see the subheading, questionnaire items and hypotheses. $N = 2,170$

**Discussion**

Regarding professional nurses’ feelings toward nursing assistants, we discovered four factors by conducting factor analyses: knowledge related to healthcare; nursing assistants’ attitudes toward work; human relations; and distinguishing between professional nurses’ work and nursing assistants’ work. Maintaining a high motivation to work thanks to nursing assistants was also significantly associated with knowledge related to healthcare, nursing assistants’ attitudes toward work, and human relations.

How professional nurses feel about assistants nurses’ knowledge related to healthcare is a significant predictor of their motivation. Although nursing assistants need not have the technical knowledge and skills of nursing professionals, it is necessary that they obtain the healthcare-related knowledge to do their work [3, 4]. If hospital managers do not give nursing assistants opportunities for education to obtain such knowledge, their abilities will not be used sufficiently and professional nurses will not enjoy the fullest possible benefits from nursing assistants’ work.

Moreover, when nursing assistants help in patient care under the supervision of professional nurses, they sometimes assist patients physically [3, 4]; therefore,
if they do not have adequate knowledge about healthcare there is a possibility that they may threaten patient safety. For example, if nursing assistants do not obtain knowledge of osteoporosis, they may handle patients without paying careful, possibly causing fractures. Hospitals also have risks that threaten the safety of workers, such as needle-stick injuries [13, 14]. Professional nurses will hesitate to work with nursing assistants if they think that they have no knowledge of work-related accidents and lack attentiveness.

Because nursing assistants do not receive the professional education that professional nurses do, the amount of knowledge related to healthcare that they can obtain is limited, compared to that of professional nurses. Therefore, it is necessary for hospital managers to define their nursing assistants’ job descriptions clearly by considering the safety of patients as well as the work-related safety of nursing assistants. Moreover, there is a professional occupation in Japan called “certified care worker” [15]. These workers care for the disabled and elderly who require assistance in their daily lives. They are not nursing professionals, but they know about healthcare because they are professionals. Accordingly, employing them in nursing departments is one way of enhancing the quality of nursing and helping to prevent work-related accidents [8].

The factor “nursing assistants’ attitudes toward work” was significantly associated with maintaining a high motivation to work thanks to nursing assistants. Professional nurses are reluctant to work with nursing assistants who have a bad attitude toward work, and if nursing assistants’ attitude toward their work is bad, the environment in the workplace may become worse over time.

It is necessary for hospital managers to create motivating work environments for nursing assistants to enhance their attitude toward work. The first author reported that nursing assistants’ work motivation was significantly associated with job-skill improvement, participating in decision making, treating nursing assistants as important partners on the job, and feeling helpful to patients [6]. Although the job responsibilities of nursing assistants are limited compared to those of professional nurses, nursing assistants highly value the intrinsic nature of their jobs. By considering nursing assistants’ feelings about their work and creating appropriate environments, nursing assistants may become more interested in their work and their attitude might improve.

The factor “human relations” was significantly associated with maintaining a high motivation to work thanks to nursing assistants. If nursing assistants are not appropriately supervised by professional nurses, the quality of medical services could decline [16]. However, if professional nurses do not build appropriate human relations with nursing assistants, they may not be able to supervise them. Therefore, hospital managers should provide the proper education for nursing assistants, including courtesy and respect for others.

On the other hand, the first author reported that nursing assistants’ desire to be helpful to professional nurses was significantly associated with professional nurses’ model behavior, manner of dealing with nursing assistants, and respect for nursing assistants’ passion for their work [7]. These three factors are fundamental to building appropriate relations. If professional nurses have an inappropriate attitude toward nursing assistants, those nursing assistants will likely hesitate to help those professional nurses. Professional nurses also need to build appropriate relations with nursing assistants. They must respect one another.

The factors “many nursing assistants older than I” and “many nursing assistants working in this hospital longer than I” were not significantly associated with maintaining a high motivation to work thanks to nursing assistants. However, as mentioned under the subheading “Questionnaire items and hypotheses”, young professional nurses may voluntarily do simple tasks that nursing assistants should do because they respect older nursing assistants. It is also possible that professional nurses hesitate to give instructions to nursing assistants who have worked in their hospitals longer than they. Nursing shortage is a serious problem in Japan [17, 18]. Therefore, even though these two variables were not significantly associated with maintaining a high motivation to work thanks to nursing assistants, it is necessary to carefully check whether or not professional nurses spend time doing tasks that should be done by nursing assistants.

Our results revealed that nursing assistants had less of an influence on the motivation of older professional
nurses than on younger professional nurses. Perhaps that is because most older nurses have more clinical experience than younger nurses do. Older nurses may be more cautious about using nursing assistants because if nursing assistants are not supervised properly, the quality of medical services could decline [16].

It is necessary for hospital managers to inform older professional nurses that nursing assistants are indispensable workers. Because nursing assistants do their work under the supervision of professional nurses, professional nurses can spend their time doing work that requires specialized skills and knowledge. Besides that, if nursing assistants are not employed in nursing departments, there is a risk that professional nurses will work too long.

The first limitation of this study was that the data were collected by requesting nursing directors to cooperate through their and our professional connections. The generalizability of the results of this study is limited because random sampling was not used. The second limitation was that we could not identify causal relations because a cross-sectional design was used. In the results of the multiple linear regression analysis, the adjusted $R^2$ value was 0.443, making it necessary to further discuss the predictors related to maintaining a high motivation to work thanks to nursing assistants. For example, working many hours of overtime and stress may be important variables. These warrant further study.

In conclusion, we discovered that professional nurses have four feelings toward nursing assistants: knowledge related to healthcare; nursing assistants’ attitudes toward work; human relations; and distinguishing between professional nurses’ work and nursing assistants’ work. Among them, knowledge related to healthcare, nursing assistants’ attitudes toward work, and human relations were significantly associated with maintaining a high motivation to work thanks to nursing assistants. Our results also revealed that older professional nurses did not maintain a high motivation to work thanks to nursing assistants compared to younger professional nurses. Hospital managers should create proper working environments in which professional nurses can feel motivated to work by considering these findings.

Conflicts of Interest

The authors declare no conflicts of interest.

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Nurses’ Work Motivation and Nursing Assistants

Appendix: The contents of the questionnaire (original version in Japanese)

Category 1): Professional nurses’ feelings toward nursing assistants and maintaining a high motivation to work thanks to nursing assistants

**Good relations**

1. Relations between professional nurses and nursing assistants are generally good in this hospital.

**Friendliness**

2. Nursing assistants in this hospital are generally friendly toward professional nurses.

**Not taking a bossy attitude**

3. Nursing assistants in this hospital generally do not take a bossy attitude toward professional nurses.

**Not taking an unkind attitude**

4. Nursing assistants in this hospital generally do not take an unkind attitude toward professional nurses.

**Meticulously organized work**

5. I think that nursing assistants’ work in this hospital is meticulously organized.

**Professional nurses not spending much time doing nursing assistants’ work**

6. When I work in this hospital, I rarely spend much time doing the work that nursing assistants should do.

**Professional nurses not doing nursing assistants’ work**

7. Professional nurses in this hospital do not generally do the work that nursing assistants should do.

**Properly assigned work for professional nurses and nursing assistants**

8. I think that work for professional nurses and for nursing assistants is properly assigned in this hospital.

**Nursing assistants’ sense of responsibility for their work**

9. I think that nursing assistants in this hospital generally have a strong sense of responsibility for their work.

**Nursing assistants’ passion for their work**

10. I think that nursing assistants in this hospital generally have passion for their work.

**Nursing assistants’ desire for advancement**

11. I think that the nursing assistants in this hospital generally desire to advance in their work.

**Choosing the occupation of nursing assistant because it is socially important**

12. I think that nursing assistants in this hospital generally chose their occupation because it is socially important.

**Recognition of the necessity of education to improve the quality of nursing**

13. I think that the necessity of education for nursing as-
assistants to improve the quality of nursing is recognized in this hospital.

**Consideration that nursing-related knowledge affects the quality of nursing**

14. I think that nursing assistants are employed in this hospital in consideration that their nursing-related knowledge affects the quality of nursing.

**Attention to patient safety**

15. I think that professional nurses in this hospital generally pay careful attention to patient safety when getting help with their work from nursing assistants.

**Nursing assistants’ requisite knowledge of high-quality nursing services**

16. I think that nursing assistants in this hospital generally have sufficient knowledge required to provide high-quality nursing services.

**Recognition of the necessity of education regarding work-related accidents**

17. I think that the necessity of educating nursing assistants regarding work-related accidents is recognized in this hospital.

18. I think that nursing assistants in this hospital generally have sufficient knowledge about work-related accidents.

19. I think that nursing assistants in this hospital generally recognize the fear of work-related accidents.

20. I think that nursing assistants in this hospital are generally cautious about work-related accidents.

21. I maintain a high motivation to work thanks to nursing assistants.

Category 2): Nursing assistants’ characteristics

**Many nursing assistants older than I**

1. There are many older nursing assistants than I in this hospital.

**Many nursing assistants working in this hospital longer than I**

2. Many nursing assistants have worked in this hospital longer than I.
わが国の看護師および准看護師における看護補助者のおかげで勤労意欲が高まるという意識

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要　旨：看護師および准看護師は、看護専門職者としての教育を受けている。看護専門職者の勤労意欲を高めるには、専門家としての仕事に専念できる労働環境を作り出す必要性がある。このような環境を作るための1つの方法として、看護補助者を有効に活用することがあげられる。我々は看護専門職者の看護補助者に対する意識を調査し、これらの意識と勤労意欲との関連性について調査した。本研究の解析対象は、25病院（55床から458床）に勤務する2,170名の女性看護専門職者である。平均年齢は38.0歳（標準偏差、10.6）であった。看護専門職者の看護補助者に対する意識に関する因子分析によって、1. 医療に関連する知識、2. 仕事に対する姿勢、3. 人間関係、4. 看護専門職者の仕事と看護補助者の仕事の区別という4つの因子が抽出された。重回帰分析の結果、年齢が高くなるほど、看護補助者のおかげで高い勤労意欲を維持できているという気持ちは下がっていた。加えて、医療に関連する知識、看護補助者の仕事に対する姿勢、人間関係に満足しているほど、看護補助者のおかげで高い勤労意欲を維持できているという気持ちは高くなっていた。病院の経営者は、これらの知見を考慮して、看護専門職者の勤労意欲が高まるよう看護の労働環境を改善する必要がある。

キーワード：看護補助者、看護師、準看護師、労働環境、勤労意欲。