ORIGINAL RESEARCH

Nurse managers' self-evaluations of their management competencies and factors associated with their ability to develop staff

Masako Shomura*, Haruka Okabe, Yoshie Tejima, Naho Yaguchi, Satoshi Iwamoto, Daisuke Sakurai

Faculty of Nursing, School of Medicine, Tokai University, Isehara-city, Kanagawa, Japan

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ABSTRACT

The purpose of this study was to clarify how Japanese nurse managers (i.e., "shunin") or higher-ranked positions self-rate their nursing management competencies and to identify factors associated with their ability to develop staff. Data were collected using a questionnaire based on the 41-item Management Index for Nurses. This index assesses the competencies related to six components of nursing management: planning, motivating staff, developing staff, communication, organization, and ensuring safety. The total possible score is 205 points. The mean percentage score for each component was calculated based on the responses from 118 participants (107 women; mean age = 44.1 $\pm$ 7.0 years). Results showed that the mean percentage score for competencies related to ensuring safety was, by far, the highest (71.8%), and the lowest was for competencies related to organization (47.6%). Principal factors found to be associated with participants' ability to develop staff were "gathering and using information" (a subscale of "educational background and interests") and "supportiveness of the work environment". These results suggest that, to improve nurse managers' competencies related to their ability to develop staff, hospitals need to establish continuing education systems that offer nurse managers convenient educational opportunities in management science, either on-site or at a higher education institution; and develop an in-house support system that enables managers to obtain counseling when practical management concerns cause them stress.

Key Words: Nurse manager, Nursing management, Staff development

1. INTRODUCTION

Because of a dizzying array of changes in domains such as healthcare policy, diseases and their treatments, and the needs of patients and their families, nurse managers' roles and responsibilities have become more diverse. In Japan, managers with a variety of titles, such as "shunin" (manager) and "shichou" (head nurse), are now responsible for the delivery of nursing care in hospitals' various wards and outpatient departments. Owing to this recent expansion in responsibilities at different managerial levels, management-related stress has been rapidly increasing in nurse managers.[1]

To assess and improve management competencies, Japanese researchers have developed self-evaluation indices of nursing management competencies.[2,3] However, the number of studies using such standardized indices is limited. Tsukakoshi and colleagues[4] and Tanaka, Taketomi, Yonemitsu, and Kawamoto[5] examined staff development and the competencies required in different managerial roles (e.g.,

*Correspondence: Masako Shomura; Email: s-masako@tokai-u.jp; Address: Faculty of Nursing, School of Medicine, Tokai University, Isehara-city, Kanagawa, Japan.

nurse leaders, head nurses, and nursing directors). In addition, Hirata[6] explored role perception in managers who had completed Certified Nurse Administrator training. Developing staff is a critical role of nurse managers to improve hospital service quality;[7,8] however, nurse managers may experience difficulty owing to a lack of understanding of their staff members' abilities.[9] Most studies on staff development by nursing managers in Japan have focused on strategies related to the reduction of reality shock or the education of newcomers.[10–13] Little is known about mid-career and professional development[14] or the knowledge initiation process[15] among Japanese nurse managers. Furthermore, further investigation is necessary to determine how nurse managers of various levels and who work in a wide variety of situations perceive their managerial competency, what factors are associated with their ability to develop staff, and what their developmental needs are.

Better understanding of nurse managers' perceptions of their competency levels and of the factors associated with their ability to develop staff could lead to recommendations not only regarding what developmental opportunities should be made available to them on-site, but also regarding how undergraduate and graduate nursing students, who will be taking on management roles in the future, should be educated. Specifically, such information could be useful in improving the learning and practice of both team-based medicine in organizations and the subject matter in "nursing management science" courses, either elective or mandatory, at the basic nursing or graduate level. Further, investigations concerning the kind of developmental support that should be provided to nurse managers, based on the factors found to be associated with the ability to develop staff competencies, could contribute new knowledge to the literature on nursing management.

1.1 Study objectives

We had two objectives: 1) To determine how nurses with the managerial title of "shunin" (manager) or a higher-ranked position working at hospitals self-rate their nursing management competencies, and 2) to identify factors associated with nurse managers' self-rated ability to develop staff.

1.2 Term definitions

Nursing management: Management of all the practices for which nurses are responsible. Nursing management practices were categorized into six components: planning, motivating staff, developing staff, communication, organization, and ensuring safety.

Ability to develop staff: The ability of a nurse manager to continually support staff in the enhancement of their knowledge and skills.

2. METHOD

2.1 Design and sample

This study employed a cross-sectional design using purposive selection. Participants were nurse managers (N = 165) in positions of "shunin" (manager) or higher working at 8 hospitals (4 university hospitals and 4 general hospitals) in the Tokyo metropolitan area. A contact person at each of the participating hospitals distributed survey packs to eligible nurse managers. A returned questionnaire was considered consent to participate.

2.2 Study period

This study was conducted from October 2007 to September 2008.

2.3 Survey methods

Survey packs, which contained a letter requesting participation, a questionnaire, and a return envelope, were mailed to the hospitals for eligible nurse managers to complete. The self-administered survey was anonymous, and participants individually returned their surveys to the researchers by mail. Consequently, they were free to complete it, without feeling obligated by their organization. The questionnaire had been partially revised after the original was tested in a pilot study.

2.4 Conceptual framework

For the components of nurse management, we used six categories of managerial competencies from the Management Index for Nurses (MaIN):[16] 1) planning, 2) motivating staff, 3) developing staff, 4) communication, 5) organization, and 6) ensuring safety. However, the ability to manage cannot be classified into clearly defined components. In practice, each component influences the others in a multi-layered process, in which the underlying competencies serially build upon each other (see Figure 1).

Factors thought to be associated with self-rated ability to develop staff are shown on the left of Figure 1. The two demographic items were "age" and "years with current employer." "Job satisfaction" refers to an individual's feeling that their job-related expectations are being met. Those expectations relate to factors such as professional status and autonomy as a professional,[17] suggesting a possible interest in personal and staff development. "Self-motivation" is the willingness to take on difficult challenges and see them through; therefore, it could be associated with a desire for personal development with the purpose of improving the ability to develop staff. "Educational background and interests" included highest level of education, management training the

individual had already received, training they were interested in receiving, and gathering information and using it in one's work. All these were very likely to be associated with the self-rated ability to develop staff. For simplicity, as a proxy for "educational background and interests," only the items related to "gathering and using information" were used in the statistical analysis. "Stress coping ability" could be either problem-focused or emotion-focused and requires training; therefore, it could be involved with participants' self-rated ability to develop staff. Lastly, "supportiveness of the work environment" refers to the human and financial resources as well support available for managers to use in their work. We predicted that the more supportive the participants rated their workplace, the higher they would rate their ability to develop staff.

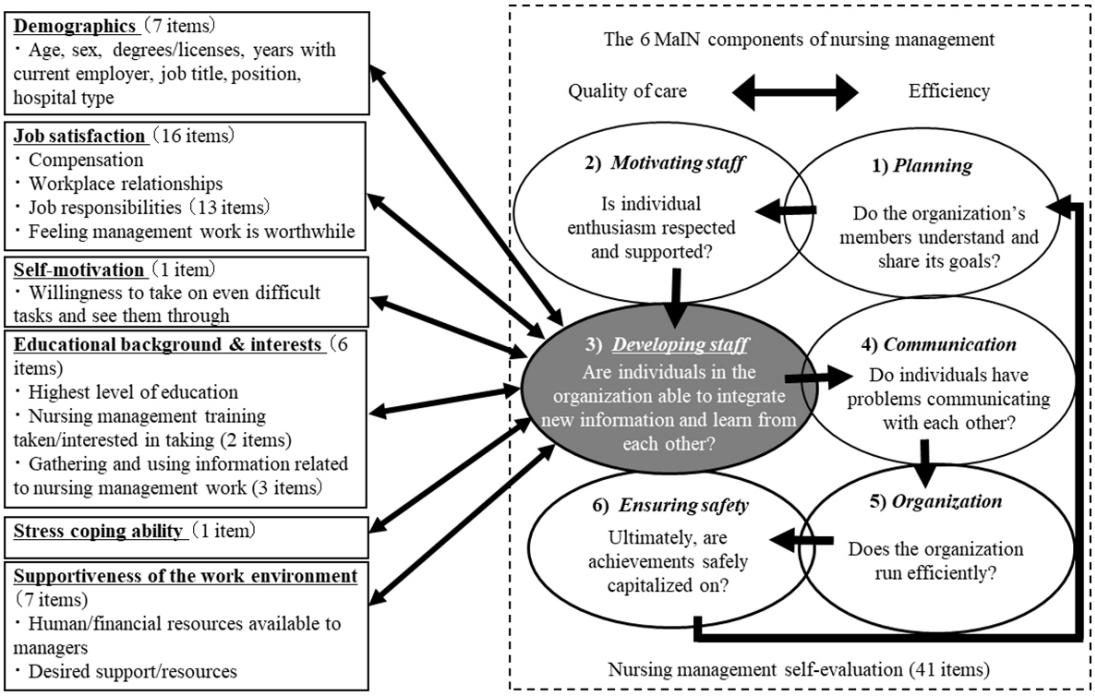

Figure 1. Conceptual scheme for factors potentially associated with ability to develop staff

2.5 Survey content

The survey questionnaire was developed based on the conceptual framework shown in Figure 1. The questions used to collect data regarding participant demographics, "self-motivation", "ability to develop staff", "stress coping ability" and "supportiveness of the work environment" were our own (see Table 1). For "job satisfaction" we created a factor containing 16 items with a total possible score of 90 points. Thirteen of these items were from the Japanese version of Stamps' Index of Work Satisfaction for nurses, which consists of 48 items rated on a 7-point scale from 0–6.[18,19] Eight of these 13 items related to professional status and five items related to autonomy as a professional (see Table 2). The six categories of managerial competencies from the MaIN are shown in Table 3.

For the self-evaluation of nursing management competencies, we used the MaIN, the reliability and validity of which has been confirmed.[16] Higher scores indicate a higher self-evaluation. The MaIN uses a radar chart showing the mean percentage scores (MPS) for each component to evaluate the balance among them.

2.6 Analysis

Simple tabulation and descriptive statistics were performed on participants' characteristics and scale scores. Multiple regression analyses were conducted to examine the potentially associated factors of the ability to develop staff. Significance was set at $p < .05$. IBM SPSS Statistics 25 (Windows client version, IBM, Armonk, NY, USA) was used for all statistical analyses.

2.7 Ethical considerations

This study was conducted with the approval from the research ethics review board of the institution with which the authors are affiliated. In addition, written consents were obtained from the nursing departments of the hospitals that participated. The survey was anonymous and self-administered, and participants returned it by mail, ensuring that participation was voluntary, and participant's privacy was strictly maintained.

Table 1. Items describing factors (other than job satisfaction) potentially associated with increases in self-rated ability to develop staff

Age: Your current age is? ( ) years
Nursing experience (years): The number of years of nursing experience you have to date (including related jobs such as education and research) is approximately? ( ) years
Self-motivation: I like to take on difficult tasks and see them through.*
Stress coping ability: I can handle more stress than can the average person.*
Educational background & interests (6 items; of which only those on "gathering and using information" [items 3–5] were analyzed; 12 points) 1. Highest level of education: 1) specialized training college, 2) vocational school, 3) junior college, 4) university, or 5) graduate school (masters/doctorate) 2. Circle all the following types of management-related training and education you have had in the past. 1) none, 2) in-house training, 3) Certified Nurse Administrator-1st level, 4) Certified Nurse Administrator-2nd level, 5) Certified Nurse Administrator-3rd level, 6) systems/administration post-graduate studies, 7) professional association-sponsored training, and 8) lectures/training at educational institutions 3. You have a place to exchange information with people to get information you need regarding managerial work.* 4. You try to get management-related information through print media such as magazines and through mass media.* 5. You put information you have acquired to use in your management responsibilities.* 6. Circle all the following types of management training you think you would like to receive. 1) management theory and concepts, 2) management and operations, 3) business administration, 4) staff development and career development, 5) quality assurance and risk management, 6) management research, 7) practical knowledge in a specialized domain, 8) on-site management training, 9) management planning practice by level, 10) evaluating managerial performance, and 11) staff education and practice.
Supportiveness of the work environment (6 items, 12 points) 1. You can take time off when you need to.* 2. You have found places in the hospital where you can relax.* 3. The hospital has in-house learning programs.** 4. There are people in the hospital who help you with your management responsibilities.** 5. There are people in the hospital who give you psychological support.** 6. Funding is available to support management activities.**

Note. *Measured using a 4-point Likert scale from 1 (*not at all true of me*) to 4 (*very true of me*). **0 = no, 1 = yes ("no" was given a score of 0 and "yes" a score of 1).

Table 2. Items related to job satisfaction as a factor potentially associated with increases in self-rated ability to develop staff

1. When I am working at this hospital, time goes by quickly.
2. I feel I am being closely watched, more than necessary, and more than I like.*
3. Even if I would make more money at another hospital, I still want to work here because of the working conditions.
4. I sometimes feel as if I have a lot of bosses (in the nurses' station) telling me contradictory things.*
5. I always feel that the work I do is important.
6. My boss makes almost all the nursing care-related decisions, so there are no decisions for me to make in my job.*
7. I am satisfied with the job I do (job content, amount of work, how the work is done).
8. Despite doing my job as well as I can, I cannot find any meaning in it.*
9. I can speak proudly about the kind of work I do to others.
10. Sometimes at work, I am required to do things that have nothing to do with nursing as a profession.*
11. Even if I had the chance to start over, I would probably go down the road to becoming a nurse again.
12. My job does not require a variety of knowledge or skills.*
13. At the appropriate times, I am free in my job to make important decisions. Furthermore, my supervisor will support me.
14. I feel satisfied with my current pay/compensation.
15. I feel satisfied with my relationships with others at work.
16. I feel that managerial work is worthwhile.

Note. *Reverse scored items. Items 1–13 were borrowed from the Japanese version of Stamps' Index of Work Satisfaction, which uses a 7-point Likert scale from 0 to 6 points, and items 14–16 were rated using a 4-point Likert scale, for a total possible score of 90.

Table 3. Question index for the six categories of managerial competencies from the Management Index for Nurses

1) Planning (7 items; 35 points)
Hospital principles, purpose of the unit, evaluation and implementing of the planning, and reflecting on the next plan
2) Motivating staff (6 items; 30 points)
Annual paid leave acquisition rate, staff salary, support for promotions, individual goal setting and evaluation, workplace human relations, and taking a vacation with ease
3) Developing staff (7 items; 35 points)
Supporting staff members' participation in conferences and research meetings, supporting out-of-hospital education and training, promoting participation in educational events, educational institution training, study sessions the staff carried out voluntarily in the department, and sharing and utilization of knowledge and skills
4) Communication (7 items; 35 points)
Personal interviews, collaboration between nurses and other experts, collaboration among nurse managers, place of dialogue in the department, discussion atmosphere, sharing patients' information in the division, caring for patients' families
5) Organization (7 items; 35 points)
Organization chart of the nursing department, institutional ethical review board, efforts to manage departments smoothly, consideration when creating department work schedule, cross-divisional activities practiced as a head nurse, delegation of authority of a head nurse, and items that department managers are practicing for incorporating out-of-hospital findings
6) Ensuring safety (7 items; 35 points)
Hospital safety manual, role of medical safety officer in division, non-medical crisis response, response as a hospital to a possible disaster, incident/accident reports, risk assessments, and response to complaints, caring for patients' families

3. RESULTS

3.1 Sample characteristics

Responses were received from 118 of the 165 eligible managers at the 8 hospitals (response rate = 71.5%). Descriptive statistics for the sample are shown in Table 4.

3.2 Nursing management self-evaluation results

The mean scores for the competencies related to all management components are shown in Table 5. Further, the MPS for each of the six components is shown in the radar chart in Figure 2.

3.3 Factors associated with "ability to develop staff"

Stepwise regression analyses using backward elimination were performed to identify factors associated with self-rated ability to develop staff, the dependent variable. Seven explanatory variables were used: "age", "years with current employer", "job satisfaction", "self-motivation", "educational background and interests", "stress coping ability," and "supportiveness of the work environment." The results identified two factors, "gathering and using information" and "supportiveness of the work environment", as being significantly associated with increases in self-rated ability to develop staff (see Table 6).

4. DISCUSSION

Our results showed that the MPS for all six nursing management components were moderate. The MPS for the first and last component of nurse management, ensuring safety, was by far the highest, while the lowest was for the immediately preceding component, organization.

To explain the relationships among the six components, we need to refer to the interpretation of MaIN results by the NMMDS-J Research Group.[16] The fact that the MPS for ensuring safety was the highest suggests that, in practice, these nurses may have been prioritizing the patients' perspective by considering ensuring safety their highest priority. In the conceptual framework, planning—the sharing of organizational goals among its members—follows ensuring safety, implying that ensuring safety informs planning. Another possibility is that, because of recent developments in the social context of nurse managers' work—such as increases in the number of medical errors and lawsuits—demands related to ensuring safety in practice have become urgent. The fact that the MPS related to organization was lowest might reflect poor operational efficiency among the groups. That would also impair efficiency in the immediately preceding component, communication, which needs to be addressed given that healthcare policy requires the provision of comprehensive team-based medical care not only within organizations but also within communities. On the other hand, the high MPS for ensuring safety, the outcome of organization, may be the result of the stable balance shown between the MPSs for the other four components—planning, motivating staff, developing staff, and communication. While these were moderate, they were all more than 50% and, as a group, may have compensated for the low self-rating for organizational ability. The self-reported scoring tendencies were similar with those of previous studies;[20,21] thus, our participants might have moderate confidence in their management abilities, which may further improve through the educational intervention.

Table 4. Descriptive statistics (N = 118)

Variable		
Age (years)	44.1 ± 7.0 (range = 30–60 years)*	
Sex	Female	107 (90.7%)
	Male	11 (9.3%)
Position	Head nurse	58 (50.0%)
	Manager	54 (46.6%)
	Director/assistant director	4 (3.4%)
Years of nursing experience	22.0 ± 6.8 (10.0–43.0)	
Years with current employer	13.3 ± 9.2 (0.5–34.0)	
Education	Vocational school	55 (47.8%)
	Junior college	43 (37.4%)
	University	11 (9.6%)
	Post-graduate studies	6 (5.2%)
Completed management training	On-the-job training	78 (66.1%)
	Certified Nurse Administrator-1st Level	58 (49.2%)
	Educational institution training	37 (31.4%)
	Professional association training	32 (27.1%)
	Certified Nurse Administrator-2nd Level	23 (19.5%)
	Certified Nurse Administrator- 3rd Level	2 (1.7%)
Training interests	Staff development/career development	76 (64.4%)
	Quality assurance/risk management	65 (55.1%)
	Business administration	59 (50.0%)
	Management/operations	52 (44.1%)
	Evaluation of managerial performance	46 (39.0%)
	Management theory	43 (36.4%)
	Management research	29 (24.6%)
	Practice in a specialized domain	19 (16.1%)

*No education data were obtained for 3 participants and no position data were obtained for 2. Multiple answers were allowed for "completed management training" and "training interests."

Table 5. Nursing management self-evaluation results (N = 118)

Competency category	Possible score	Mean ± SD (range)	Mean percentage score
Planning	35	19.4 ± 6.8 (4–34)	55.4
Motivating staff	30	16.1 ± 5.0 (2–26)	53.5
Developing staff	35	19.8 ± 5.9 (2–32)	56.1
Communication	35	19.9 ± 7.8 (0–35)	56.9
Organization	35	16.6 ± 6.9 (2–34)	47.6
Ensuring safety	35	25.1 ± 6.5 (0–35)	71.8
Total score	205	117.0 ± 30.5 (26–186)	57.0

The principal factors found to be associated with ability to develop staff were "gathering and using information" and "supportiveness of the work environment." A previous study by Takahashi, Kiyomura, Kajiwara, and Itou[22] suggested that the learning needs of clinical nurses (including managers) may be influenced by their educational backgrounds and the type of hospital they work in. Since learning needs and training are closely related concepts, we assumed that the explanatory factors associated with them should be similar.

Our results also suggested that in-house managerial training and support systems for nurses may require improvement. Kuraoka[23] suggested that experimental learning might improve nursing management competencies. In addition, given the variation in educational backgrounds and interests in this

sample, there was a wide variety of future training-related interests; therefore, outside of managers with post-graduate degrees, there was likely a strong need in this sample for training at the university undergraduate and graduate-levels. Consequently, it is crucial that continuing education systems provide managers with opportunities for the academic study of management science (e.g., at universities). The results also suggested that it would be beneficial to establish in-house managerial support systems that enable managers to obtain counseling when practical management concerns cause them stress. Similar findings were mentioned in a previous study.[9]

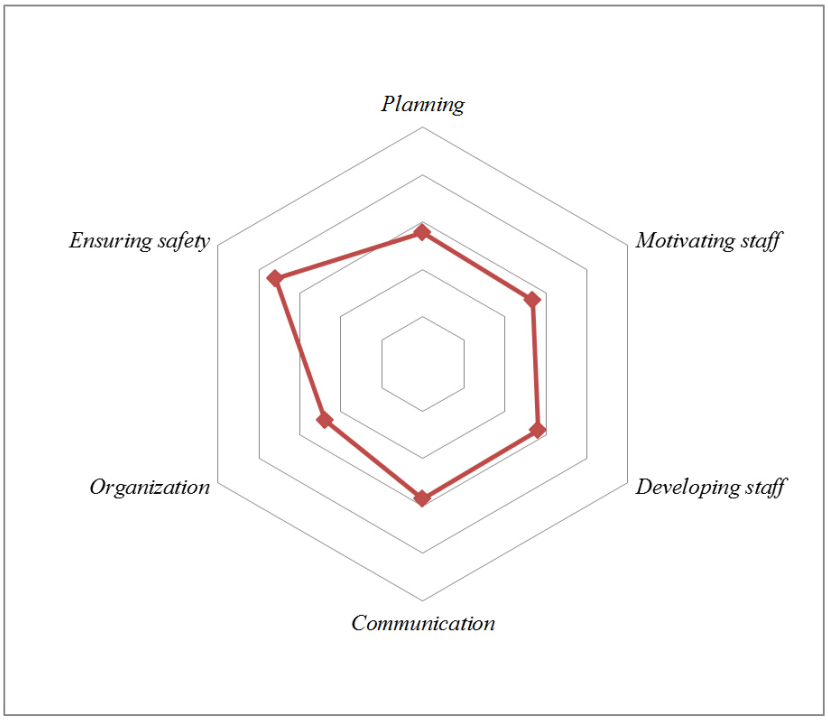

Figure 2. Balance of mean percentage scores for each competency component of nursing management self-evaluation (N = 118)

Table 6. Factors potentially associated with ability to develop staff

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	*p*
	β (*p*)	β (*p*)	β (*p*)	β (*p*)	β (*p*)	β	
Gathering and using information	0.170 (.109)	0.170 (.109)	0.171 (.104)	0.202 (.039)	0.202 (.039)	0.251	.007
Supportiveness of work environment	0.266 (.010)	0.264 (.007)	0.263 (.007)	0.266 (.007)	0.254 (.009)	0.210	.023
Age	0.131 (.205)	0.131 (.203)	0.148 (.130)	0.150 (.499)	0.142 (.143)		
Stress coping ability	-0.108 (.273)	-0.107 (.270)	-1.161 (.248)	-0.083 (.352)			
Self-motivation	0.089 (.406)	0.088 (.404)	0.083 (.429)				
Years with current employer	0.049 (.606)	0.049 (.605)					
Job satisfaction	-0.006 (.949)						

Note. β = standardized coefficient.

In addition, to promote nurse managers' growth after they have completed available programs at academic societies,[24] they need to be given opportunities for experiential learning on-site that allow them to apply the knowledge and evidence-based practices they have learned. Specifically, Conley[25] found that developing expert communication skills on the job was critical to nurse manager success. For example, communicating can be practiced when using coaching skills to motivate staff or when obtaining a manager's approval. In Japan, progress is being made in efforts to combine the organizational model for developing generalist nurses into nurse managers with the clinical ladder model.[26] A future topic for research will be to develop and test a training program for nurse managers that is independent of the organizational scale.[27]

Because of constraints on the number of hospitals and participants that could be recruited for this study, there are limitations to the generalizations that can be made based on our results. Another potential limitation is that the scale and data we utilized could be outdated as they were from 2007–2008. Another possible limitation is that we were unable to conduct a comparative analysis because of the limited number of previous studies on this subject. Further research should aim to correct these limitations. In addition, our findings inform the development of nursing management training programs. Finally, intervention studies should be conducted, including addressing ways to improve cross-training systems between workplaces and universities.

5. Conclusion

This study clarified nurse managers' self-rated management competencies. The principal factors associated with participants' ability to develop staff were "educational background and interests" and "supportiveness of the work environment". Therefore, hospital policymakers need to establish continuing education systems that offer nurse managers convenient educational opportunities in management science, either on-site or at a higher education institution; and develop an in-house support system that enables managers to obtain counseling when practical management concerns cause them stress.

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Conflicts of Interest Disclosure

The authors declare that they have no competing interests.

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