

Full Length Research Paper

Management skills required for nursing middle managers in the next generation in perinatal medical care

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Learning of management skills is necessary for the training of nursing middle managers in the next generation. However, in perinatal medical care, there have been few studies on management skills for midwives as middle managers. The aim of this study was to determine whether advanced midwives have an awareness of probable future changes in perinatal nursing and what management skills they consider will be required for nursing middle managers in the next generation. This study was a qualitative descriptive design conducted for 761 advanced midwives who work in hospitals having 300 beds or more and having an independent department of nursing during the period from November 2018 to May 2019 in Japan. Self-reported questionnaires were sent after receiving acceptance from directors of nursing and questionnaire forms from 501 midwives in 91 hospitals were analyzed. The proportion of midwives who responded that perinatal care and nursing will change in the next 10 to 20 years was 86.8%, and the items of the top three were increase in the number of pregnant women with a high risk, development of reproductive medicine and development of prenatal diagnosis. According to the responses to the questionnaires, management skills that are required for nursing middle managers in the next generation include the ability to deal with different values of midwives, the ability to train midwives with high ethical values and the ability to cooperate with the community. Midwives recognize the need for systematic training for nursing middle managers in the next generation having a high level of management skill.

Key words: Advanced midwives, nursing middle managers in the next generation, management skill, predicted change.

INTRODUCTION

In Japan, the social situation regarding medical care has been greatly affected by the advance level of medical treatment, the rapidly declining birthrate and increasing

proportion of elderly people, as well as changes in the values of medical care. It has been reported that directors of nursing made efforts to establish good relationships

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with nursing staff, hospital managers, managers of other departments and outside organizations and made efforts to reform nursing services and establish new nursing services since health care reform has been rapidly advancing and awareness of the importance of health has been increasing (Yamamoto et al, 2013). Nursing middle managers, who manage nurse managers according to directives of the director of nursing, play important roles in management for quality of nursing care, assessment of nursing staff and development of their abilities, and planning of hospital management. Recently, it has been reported that the roles of nursing middle managers are diverse and complex due to changes in the system that provides health medical care and that the responsibilities of nursing middle managers have been increasing (Mizuno, 2013). It has been suggested that the establishment of positions of first-line nurse manager, nurse manager and ward manager, positions that are comparable to middle managers in Japan, is needed in the USA (Gebelein, 2004). Training programs for nursing management in the USA are diverse, but training has mainly been conducted in graduate schools (Elaine, 2007). Systematic training for and development of the ability required for nursing managers may be conducted in the future in Japan.

In perinatal medical care, active roles of midwives are needed for the promotion of team medicine and support of child-rearing. Education for midwives had been started before the establishment of education programs for nurses and public health nurses, and a professional position for midwives has been established. For effective use of midwifery expertise, the Japanese Ministry of Health, Labor and Welfare has been promoting the establishment of a system of midwifery outpatients and maternity homes in hospitals for pregnant women with low risk by cooperation with obstetricians (Japanese Nursing Association, 2013). In 2015, to clarify the abilities required of midwives with changes occurring in perinatal medicine and to guarantee the quality of care, the Japan Institute of Midwifery Evaluation developed the Clinical Ladder of Competencies for Midwifery Practice (CLOCMip[®]) and started a certification system for advanced midwives who have acquired level III of the clinical ladder and can provide midwifery care independently (Japanese Nursing Association, 2018). Approximately 12,000 midwives are now certified as advanced midwives in Japan. Since it is expected that the roles of advanced midwives will be expanded due to the establishment of a system of midwifery outpatients and the establishment of maternity homes in hospitals, the responsibilities of nursing middle managers in perinatal medical care will increase.

It has been suggested that training for middle managers in the next generation is an important theme for nursing organization (Katsuyama, 2010). In addition, it is suggested that learning of management skills is necessary for a scheduled training of nursing middle managers in the next generation (Harada and Yamashi,

2014). With regard to nursing middle managers, there have been several reports about desirable actions (Moriyama and Hunashima, 2015) and career development (Mizuno, 2013) in Japan. In addition, there have been several studies on training for midwives and development of abilities required for midwives (Saruta and Sasaki, 2011; Kimura and Matsuoka, 2003). However, there have been few studies on management skills for middle managers of midwives in the next generation. The aim of this study was to determine whether advanced midwives have an awareness of probable future changes in perinatal nursing and what management skills they consider will be required for middle managers in the next generation.

METHODOLOGY

Definitions of terms

Advanced midwife: An advanced midwife is a midwife who has acquired level III of the Clinical Ladder of Competencies for Midwifery Practice and can independently provide midwifery care for midwifery outpatients or in a maternity home in a hospital, and is certified by the Japan Institute of Midwifery Evaluation (Japan Nursing Association, 2018). **Nursing middle manager in the next generation in perinatal care:** this position is defined as a midwife who had experience of management in a perinatal medical center for 10-20 years and who plays the role of head nurse as the person in charge of providing nursing services based on the definition of a head nurse by Moriyama (Moriyama et al., 2015).

Management skill: Management skill is defined as effective action in situations that require management (Katz, 1974). A qualitative descriptive study was conducted during the period from November 2018 to May 2019. Focus was on the hospitals having 300 or more beds, since these hospitals have a midwife training program after employment and the backgrounds of subjects would be uniform. The number of advanced midwives working in 267 perinatal maternity hospitals that have 300 or more beds was about 2200. The necessary sample size was calculated to be about 350 using permissible errors (5%), reliability (95%) and response ratio (50%), and the appropriate sample size was determined to be 700 considering the recovery rate (50%). Out of 267 hospitals, 193 hospitals were randomly selected through a website shown in the Japan Institute of Midwifery Evaluation. First request forms that stated the purpose, significance and methods of the study with questionnaire forms to chiefs of nursing managers of the aforementioned institutions were sent. For 761 advanced midwives working in 91 hospitals from which acceptance for research cooperation was obtained, an explanation sheet for the study, an informed consent form, a self-administered questionnaire form and a return envelope were sent. The respondents were requested to send back their completed questionnaire forms by using the provided return envelopes.

The questionnaire consisted of three parts. The first part was questions on basic characteristics including questions on age, years of midwifery experience, position, years of experience in nursing middle management, training institution for obtaining midwife license, type of affiliated facility, affiliated department, number of deliveries in the facility, and presence of midwifery outpatients and maternity home in the hospital. The second part of the questionnaire consisted of 17 items regarding changes in perinatal medical care and nursing including development of reproductive medicine, development of gene therapy, utilization of artificial intelligence (AI) and AI robots, development of prenatal

diagnosis, development of medical equipment, utilization of information and communication technology, increase in the number of pregnant women with a high risk, complications of ethical issue decrease in the number of obstetricians, decrease in the number of delivery facilities, expansion of the role and discretion of midwives, upgrading midwifery diagnosis and practice, collaboration between medical institutions and maternity homes, expansion of social activities for midwives who work in a facility, collaboration between community and government in the perinatal system, and increase in utilization of ultrasonography (USG) by midwives. Multiple choices were allowed in the selection formula. The third part of the questionnaire was a request for a statement as a free writing part on management skills that will be required for nursing middle managers in the next generation to deal with changes in perinatal nursing in the next 10 to 20 years.

Data analysis

The data obtained were analyzed using Microsoft Excel 2016 and calculated descriptive statistics. In the free writing part of the questionnaire, total description was set as a context unit, and a description including one content that shows "management skill that is required for middle managers in the next generation" was one recording unit. Recording units of the same contents or contents with similar meanings were summarized and the same recording unit group was made. The recording unit group was encoded according to similarity of meaning and a categorized name was given. In the process of analysis, reliability and validity were confirmed by the guidance of a supervisor who has experience in qualitative nursing research.

ETHICAL CONSIDERATION

This study was approved by the Ethics Committee of Tokushima University Hospital (Approval No. 3271). An anonymous questionnaire sheet was used in the survey. Each subject was provided with a research explanatory document setting out an explanation about the research and was informed that she would be deemed to consent to participation in the research by completing the questionnaire sheet and by checking in the check boxes. The consent of each subject was obtained on the basis of the explanation that participation in the survey was voluntary, that refusal to participate would cause no detrimental treatment, and that data obtained would not to be used for any purpose other than this research.

RESULTS

A total of 531 questionnaire forms were obtained from 761 advanced midwives in 91 hospitals (recovery rate of 69.8%). Questionnaire forms with no check in a check box and incomplete answers were excluded, and 501 questionnaire forms were analyzed (effective response rate: 94.4%). The baseline characteristics of the subjects are shown in Table 1. The proportion of midwives who answered that the number of deliveries has decreased in the past 5 years was 40.5%, while the proportion of midwives who answered that the number of deliveries has increased in the past 5 years was 21.0%. The proportion of advanced midwives who responded that perinatal medical care and nursing will change in the next 10 to 20 years was 86.8% (435/501) and the proportion

of advanced midwives who answered that there will be no change was 13.2%. As can be seen in Figure 1, for the subjects who responded that there will be changes in perinatal medical care and nursing in the future, the contents of changes (multiple answers) were as follows: increase in the number of pregnant women with a high risk (n=369, 73.6%), development of reproductive medicine (n=297, 59.2%), development of prenatal diagnosis (n=276, 55.0%), decrease in the number of delivery facilities (n=262, 52.2%), complications of ethical issues (n=250, 49.9%), decrease in the number of obstetricians (n=235, 46.9%), development of gene therapy (n=201, 40.1%), collaboration between the community and government in the perinatal system (n=195, 38.9%), expansion of the role and discretion of midwives (n=175, 34.9%), increase in utilization of USG by midwives (n=157, 31.3%).

With respect to management skills that are required for nursing middle managers in the next generation, the contents shown in the free writing were classified into categories according to similarity. The contents were summarized into 3 categories with 10 sub-categories. The three categories (the ability to deal with different values of midwives, the ability to have high ethical values and the ability to cooperate with the community) and the 10 sub-categories are shown in Table 2.

DISCUSSION

In the present study, approximately 90% of the advanced midwives had an awareness of probable changes in perinatal care and nursing in the next 10-20 years. The changes predicted by high proportions of the subjects were an increase in the number of pregnant women with a high risk, development of reproductive medicine, development of prenatal diagnosis and decrease in the number of delivery facilities.

Advanced midwives predicted that there will be an increase in pregnant women with a high risk. Pregnant women with a high risk include not only women with a physical high risk but also women who need support from the early stage of pregnancy due to their social background. In Japan, the number of pregnant women with a social high risk and the number of children who are abused and neglected by pregnant women with a social high risk have been increasing (Maruyama et al., 2015). The number of women with infertility has also been increasing despite advances in reproductive medicine, using assisted reproductive technology (Saito et al., 2018). The study shows that learning ethics along with advances in reproductive medicine are required for middle manager in the next generation. In order to establish good relationships with women who have various backgrounds, middle managers should practice ethical reflection based on their own experience and always maintain ethical views and traditional midwifery views.

The proportion of midwives who responded that the use

Table 1. Characteristics of the subjects.

Mean years of midwifery experience (years) (n=501)		18.9 (6-38)
Mean number of deliveries		632.3 (10-1700)
Age	20s	10 (2%)
	30s	165(32.9%)
	40s	195(38.9%)
	50s	124(24.8%)
	60s	7(1.4%)
	Educational institute at which a midwifery license was acquired	Vocational school
Department of junior college		144(28.7%)
4-year university		47(9.4%)
University with having major		25(5.0%)
Graduate school		7(1.4%)
Others		3(0.6%)
Position of midwife	Head nurse	57(11.4%)
	Assistant head nurse	151(30.1%)
	Staff	293(58.5%)
Mean years of experience as a head nurse (years) (n=57)		5.8 (0.9-25)
Hospital type	University hospital	157(11.4%)
	General hospital	328(65.5%)
	Specialized hospital for mother and child	8(1.6%)
	Other	8(1.6%)
Presence of perinatal medical center	Yes	365(72.8%)
	Not installed	136(27.2%)
Department	Maternity ward	179(35.7%)
	Obstetrics and gynecology ward	107(21.3%)
	Ward including obstetrics and gynecology and other clinical departments	93(18.6%)
	Maternal and fetal intensive care unit	65(13.0%)
	Neonatal intensive care unit	20(4.0%)
	Outpatient department	18(3.6%)
	Others	19(3.8%)

Table 1. Cont'd

Presence of midwifery outpatients	Yes	416(83.0%)
	No	27(5.4%)
	No plans for opening	58(11.6%)
Presence of maternity home in a hospital	Yes	168(33.5%)
	No	48(9.6%)
	No plans for opening	285(56.9%)
Acceptance of midwifery practice maternity nursing practice or midwifery practical training	Yes	488(97.4%)
	No	13(2.6%)

Table 2. Management skills for nursing middle managers in the next generation.

Categories	Sub-categories
Dealing with different values	Dealing with different and complicated problems in perinatal medicine and nursing
	Dealing with different needs of women
	Dealing with different values of young midwives
Having high ethical values	Being more aware of the risks in pregnant women with high risks
	Learning ethical views due to advance of reproductive medicine
	Maintaining ethical views and traditional midwifery views
Cooperating with the community	Making efforts to strengthen cooperation with the community
	Creating a community in which women can have safe deliveries and can provide child-care
	Cooperating with midwives in a community
	Training midwives working in hospitals who can play a role in the community

of USG by midwives will increase in the future was only 31.3%. In Japan, a prenatal check-up, using USG, has been conducted in more than half of the hospitals and clinics (Nakaya et al., 2017). It has been reported that a prenatal check-up by midwives using USG had a positive effect on the psychological state of pregnant women (Izumi et

al., 2011). However, the proportion of midwives who perform a prenatal check-up for fetal screening by using USG is small (Nakaya et al., 2017). It has been reported that approximately 96% of midwives in Sweden perform fetal screening by using USG (Hayat Roshanai et al., 2015). Japanese midwives may not have

confidence in USG technology since basic education for USG technology has just been started and they have not received sufficient education after obtaining a midwifery license.

Systematic and sustainable education for leaning high levels of techniques in ultrasonographic examinations is needed in the future.

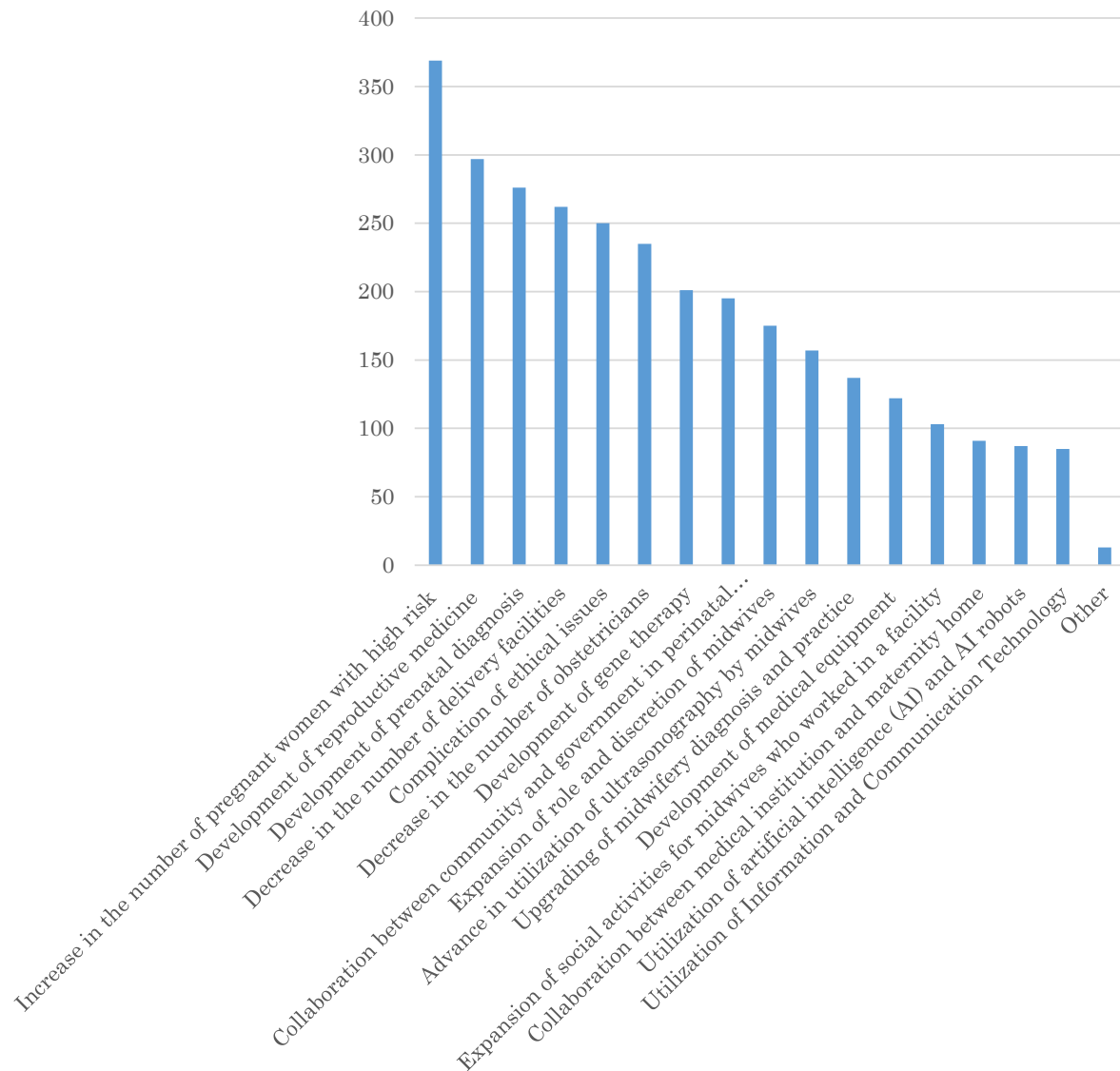


Figure 1. Numbers of advanced midwives who responded to predicted items of changes in perinatal medical care and nursing in the next 10-20 years.

The study shows that middle managers need the ability to deal with changes in medical care for women and flexible support for complicated problems in perinatal medical care and nursing. Eleven items including support for family planning and for women who have suffered from infertility, recurrent pregnancy loss, sexually transmitted diseases and menstrual disorders were proposed by the Japanese Midwives' Association to be important for the ability of midwives to provide health care for women (Japanese Midwives' Association, 2010). It is necessary for middle managers to recognize different needs of women, to establish an educational system in which a midwife can acquire sufficient ability to provide all aspects of health care for women, and to provide a place where a midwife can sufficiently demonstrate her ability.

In this study, 23% of the hospitals had mixed wards. A mixed ward has various problems such as the risk of infections in neonatal infants (Kitajima, 2008) and inability for midwives to provide selective midwifery care (Teraoka et al., 2019). Midwives have to care for pregnant women, women during delivery and postpartum women as well as for general patients. Since the number of hospitals with a mixed ward is expected to increase, middle managers should make efforts to provide a workplace in which midwives can demonstrate their expertise and should make efforts to strengthen risk management.

Considering the need for establishing community-based integrated care systems in perinatal medical care, the study speculates that cooperation between the government and a community in a perinatal system,

expansion of the social activity of midwives in hospitals, and cooperation between medical institutions and maternity homes will become important. However, the proportion of advanced midwives who predicted a change in the relationship between a hospital and a community was relatively small. The Japanese government has stated the need for a system that can provide continuous support for pregnant women before and after childbirth and the need for community support for child-rearing (Ministry of Health, Labour and Welfare Service Guide, 2019). Currently, midwives in hospitals share information regarding postpartum women with midwives in communities and public health nurses. In the future, midwives may focus more on the community in order to promote home visits before and after childbirth and promote information sharing. In the present study, it was shown that middle managers need to make efforts to strengthen cooperation with the community and to create a community in which women can have safe deliveries and can provide child care. Therefore, learning management skills that enable middle managers to cooperate with midwives working in a community is important.

This study has several limitations. The number of the subjects was small since there was low response rate. Further study with a larger number of subjects may be needed. The design of this study was a descriptive qualitative study but not a quantitative study. A quantitative study is needed to confirm the necessary management skills that were clarified qualitatively in this study.

There are 267 perinatal maternity medical hospitals that have 300 or more beds in Japan, but the study was conducted in 193 hospitals (72.3%). It may be necessary to conduct a study for advanced midwives in all 267 perinatal maternity medical hospitals.

Conclusion

In conclusion, midwives recognize the need for systematic training for nursing middle managers for the next generation to have a high level of management skill.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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