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# 博士論文

Current state of breastfeeding support in mixed wards: a questionnaire

survey of nursing administrators

(混合病棟における母乳育児支援の現状～管理者への質問紙調査から～)

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## **Abstract**

**Background:** Issues related to the increased adoption of mixed wards in Japan (i.e., maternity wards with patients of other departments), particularly the impact of this change on postnatal care from the perspective of nursing administrators, are poorly understood.

**Methods:** We asked administrators to provide information about the mixed tasks of staff when caring for mothers and infants, the utilization of perinatal nurses, and the current state of workplace education related to breastfeeding support. We sent letters to 465 birthing facilities in two regions, requesting their participation; then, we sent self-administered questionnaires to the nursing administrators of the 60 facilities who agreed to participate. Fifty-two facilities answered the questionnaire (response rate = 86.7%). Written, informed consent was obtained from all participants, and this study was approved by the ethics committees of Kobe University.

**Results:** Of the 52 respondent facilities, 28 (53.8%) had mixed wards. The median number of departments was 2 (range = 1–21; 1 department, n = 24; 2 departments, n = 7; and  $\geq 3$  departments, n = 21). Further, > 50% of the facilities used staff to cover other departments. At 35 (67.3%) facilities, midwives had additional responsibilities depending on their license, such as providing non-delivery assistance, conducting antenatal classes on breastfeeding and breast care, and providing education to prevent difficulties during breastfeeding. In addition, nurses offered breastfeeding support at 88.5% (46/52) of the hospitals and 73.9% (34/46) of these hospitals reported having no defined limits to nurses' responsibilities. In the mixed wards,

53.8% (28/52) reported that ongoing workplace education about breastfeeding support was provided.

**Conclusions:** From our survey, more than half of the birthing facilities adopted mixed wards, suggesting that mothers and infants frequently do not receive care by midwives alone.

Although the reality is that midwives and nurses support breastfeeding at most facilities (88.5%; 46/52), at 21 facilities (40.4%; 21/52) nurses had not received appropriate continuing education. Therefore, nurses working in overall require education concerning breastfeeding support. It has also not been clarified whether receiving assistance from breastfeeding supporters who received sufficient training affects the breastfeeding rate and mothers' satisfaction with breastfeeding; thus, further analysis is needed in future research.

**Key words:** breast feeding, continuing nursing education, nurse midwives, perinatal care, postnatal care

## **Introduction**

The birthrate has declined in Japan, resulting in fewer obstetricians, the closure of several clinics, and the consolidation of obstetric departments.<sup>1</sup> This trend is particularly noticeable in local areas, which has increased the burden on public and general hospitals. A 2009 study by Kitajima and colleagues.<sup>2</sup> showed that 75.4% of mid-sized general hospitals with obstetric departments had adopted mixed wards, confirming the rate of 74.7% reported by the Midwifery Society in 2003.<sup>3</sup> According to a survey by the Japanese Nursing Association in 2012,<sup>4</sup> the proportion of mixed wards (i.e., maternity wards with patients of other departments) has increased to 80.6%, and retaining beds solely for obstetric care may become difficult.

There are various patterns of mixed wards in Japan, including wards for obstetrics and gynecology, obstetrics and other specialties, women only, and mixed sexes and specialties. A survey by the Midwifery Society<sup>3</sup> indicated that nursing administrators were concerned about shortages of maternal and child care in these wards, probably because it becomes difficult for the staff to concentrate on maternal and child care.<sup>5</sup> Indeed, staff working in mixed wards have different care priorities compared to midwives, which may cause concerns among nursing administrators who need to secure quality perinatal nursing to ensure the safety of mothers and children and enhance satisfaction and attitudes concerning childbirth and infant care.<sup>6</sup>

However, the only official difference between the tasks of midwives and nurses, as determined by the Act on Public Health Nurses, Midwives and Nurses, is whether they can assist with delivery.<sup>7,8</sup> Nevertheless, the knowledge and techniques among nursing practitioners who work

in mixed wards often substantially differ, resulting in significant differences in care provision.<sup>9,10</sup> For mothers to breastfeed a newborn, high levels of consistent care need to be provided irrespective of the specialization of the care provider who provides such care.

Therefore, we aimed to clarify the current care situation in mixed wards, focusing on whether nurses provide obstetric care, work together to care for mothers and infants, and receive adequate postgraduate education about breastfeeding support, as well as whether the use of different nurses and the shortage of midwives are considered as problems in these wards. Specifically, we had three aims: (1) to clarify the current situation of breastfeeding support in mixed wards, (2) to clarify the participation of nurses regarding breastfeeding support in obstetric care, and (3) to clarify how ongoing workplace education about breastfeeding support is given to nurses.

## **Methods**

### ***Study design***

We conducted a self-administered questionnaire survey of hospital administrators from October 2015 to January 2016. We invited, by mail, the nursing administrators of 465 birthing facilities to participate. We considered a returned, completed questionnaire as consent to participate. This study was approved by Kobe University (approval no. 426).

### ***Definition of terms***

We used specific definitions for breastfeeding support, mixed wards, registered nurses, assistant nurses, midwives, and nurses. We considered breastfeeding support to be any support

related to breastfeeding, including guidance or education about breastfeeding, assessment of breastfeeding status, direct assistance with breastfeeding, guidance or education about monitoring and providing self-care for breasts, and assessment of newborns' feeding status.

Mixed wards were defined as wards accepting patients other than maternity patients and newborns, irrespective of the conditions of acceptance (e.g., sex, disease type, or disease severity). A registered nurse is a person who has completed a program of basic, generalized nursing education and is authorized by the Minister of Health, Labor and Welfare. An assistant nurse is a person who has completed a program of basic nursing education, is authorized by the prefectural governor, and can provide patient care under the direction of a registered nurse.

A midwife is any woman who has acquired a license to perform midwifery after acquiring a license to practice as a registered nurse. There is no method for direct entry to midwifery in Japan. Nurses are care providers including registered nurses and assistant nurses but not midwives.

### ***Survey contents***

The survey comprised eight elements, with appropriate questions:

- 1) Whether the ward is a mixed ward;
- 2) Whether they adopted a rooming-in system;
- 3) The percentages of different staff types on the ward;
- 4) The percentages of different staff types working day shifts, and the proportion of staff engaged primarily in obstetric care, excluding delivery assistance, and whether

different staff are used for delivery assistance;

- 5) The percentages of different staff types working night shifts, and the proportion of staff engaged primarily in obstetric care, excluding delivery assistance, and whether different staff are used for delivery assistance;
- 6) Whether any tasks are provided only by midwives (excluding delivery assistance). If yes, what tasks?
- 7) Whether there is any staff rotation, such as staff covering other wards. If yes, what is the frequency and what staff types perform said coverage?
- 8) Whether education on breastfeeding support is provided in the workplace (e.g., for newcomers and shift staff). If yes, do all nurses receive that education?

### ***Data analyses***

We analyzed baseline data by descriptive analysis, followed by chi-square and Fisher's exact tests to compare obstetric and mixed wards. Differences in the number of staff were analyzed with a one-way analysis of variance.  $P_s < .05$  (two -tailed) indicated significance. IBM SPSS, Version 22 (IBM Corp., Armonk, NY, USA) was used for analysis.

### **Results**

#### ***Participants***

We asked nursing administrators from 465 facilities to participate. Although 60 agreed to respond, we only obtained responses from 52 (recovery rate = 86.7%). Participants' characteristics are summarized in Table 1. Most nursing administrators who responded worked



as midwives, and relatively few worked as nurses. Of 52 facilities, 24 had obstetric wards and 28 had mixed wards.

### ***Nursing system***

Most facilities employed nurses ( $n = 49$ ; 94.2%), including 30 (57.7%) that employed assistant nurses and 3 (5.8%) that only employed midwives. There were significant differences in the number of nurses ( $p < .01$ ) between obstetric and mixed wards, but not in the number of midwives. Many facilities utilized function-specific nursing ( $n = 21$ ; 41.7%) and adopted a two-shift working pattern ( $n = 32$ ; 53.3%). Function-specific nursing refers to a system of allocating nursing duties based on the nature of the task, rather than allocating specific nurses to individual patients. In the facilities where midwives were absent during night shifts, on-call systems were adopted to ensure 24-hour coverage. Although rooming-in was adopted in 94.2% of facilities, its implementation and initiation varied markedly; e.g., starting at 24-hours after delivery or according to mothers' wishes. Most facilities also rotated their nurses ( $n = 37$ ; 71.2%). These details are summarized in Table 2.

### ***Tasks of midwives and nurses***

Thirty-five facilities (67.3%) responded that midwives alone provided specific tasks other than delivery assistance. These included maternity classes, breastfeeding clinics (outpatient), breast care (guidance for massage and weaning), and advice on dealing with breast problems. Forty-six facilities (88.5%) had nurses routinely provide breastfeeding support; of these, 34 (73.9%) responded that there was no defined limit to this service. These details are summarized in

Table 3.

### ***In-service education for nurses***

Only 53.8% (28/52) of facilities responded that they provide education on breastfeeding support for nurses working shifts and for newly employed nurses. There was also a significant difference in education provision between obstetric and mixed wards ( $p < .05$ ). The details of these results are summarized in Figure 1.

## **Discussion**

### ***Nursing in mixed wards***

Ishikura and colleagues<sup>11</sup> investigated the relationship between motivation to work and work stressors among midwives in hospitals, comparing obstetric and mixed wards based on a similar definition to our own. They showed that midwives working in obstetric wards had significantly less motivation than did those working in mixed wards; however, there was no significant difference between work stressors. In obstetric wards, there were negative correlations between working motivations and work stressors, particularly for the domains “human environment in the workplace,” “qualitative burden of work,” and “quantitative burden of work.” Reducing these work stressors could improve the motivation of midwives working in obstetric wards. However, Suzuki and colleagues<sup>12</sup> found that midwives working in mixed wards complained that they were unable to concentrate on midwifery work, suggesting that work in non-obstetric departments and the complexity of work decreases their motivation. Suzuki and colleagues<sup>12</sup> also reported a large difference in working environments among

facilities; for example, some facilities employed multiple midwives to cover night shifts, whereas others employed only one. Similarly, some facilities always secured full-time midwives at night, whereas others only used an on-call system.

The national average rate for rooming-in is 79.5% in Japan,<sup>13</sup> whereas 94.2% of the facilities in our survey adopted some form of this system (100% and 89.3% in obstetric and mixed wards, respectively). In mixed wards, infection risks and security concerns presumably made rooming-in difficult. Moreover, Oga and colleagues<sup>14</sup> reported that facilities with obstetric wards have policies to reduce the provision of delivery care (particularly public hospitals and facilities with mixed wards), albeit with regional differences. Consequently, the noted problems are set to persist.

### ***Differences in nursing depending on job types***

Our study included an area that is not representative of Japan. The proportion of obstetric facilities in Japan are 54% hospitals and 45% clinics. In addition, midwives are unevenly distributed among facilities,<sup>15</sup> and many clinics have an insufficient number of midwives.<sup>16</sup> Notably, 70% of the facilities were clinics that may have had an insufficient number of midwives. This increases the likelihood that midwives cannot provide maternity and puerperal care to all women; hence, more nurses need to be employed. To improve the care provided by midwives, it is desirable to strengthen their cooperation with nurses and assistant nurses to reduce mothers' difficulties in breastfeeding and infant care due to care shortages.

Consequently, midwives' cooperation with nurses benefits both mothers and infants.

Nakamura<sup>17</sup> reported that staff with no obstetric experience were less knowledgeable than experienced nurses about fatigue and technical difficulties when providing puerperal nursing and assistance with breast observation and self-care. Nursing administrators were less aware than staff nurses of these issues, as well as concerning the assistance needed for minor puerperal nursing issues, for lactation, or for changing newborns' diapers. Staff with less hands-on obstetric nursing experience therefore tended to be less aware of the requirements of puerperal nursing, indicating that they considered delivery-related care to be the main task of obstetric nursing. Our survey showed that nursing administrators typically provide breastfeeding support without limiting said support, especially given that they reported that careproviders provide breastfeeding support and that the additional tasks performed by midwives were specific to midwifery (e.g., assisting with the birth, etc.). However, these results need to be interpreted with caution given that the responses were only from administrators and that midwives were not always present in their facilities.

Previously, Iwatani and colleagues<sup>18</sup> showed that there was variation in the time required for neonatal nursing between different jobs. However, they only compared the average time requirements; consequently, they could not determine differences in specific scales between distinct jobs.

### ***Education for breastfeeding support***

According to the survey by Kawasaki and colleagues,<sup>17</sup> few nurses providing breastfeeding support received ongoing training after completing their basic education, and, at most, half the

nurses attended academic meetings. In addition, differences were found in knowledge and attitudes to breastfeeding support among different staff types, not only between practicing midwives and other staff but also between hospital nurses and other staff. In a survey by Nakamoto,<sup>20</sup> among midwives, nurses, and assistant nurses who routinely provided breastfeeding support, only 6.1% considered that they provided care that they thought was necessary for any job type, suggesting that sufficient care is not currently provided.

We found that 40% of surveyed facilities did not deliver specific education for nurses, that mixed wards had fewer learning opportunities for breastfeeding support, and that many facilities did not target nurses for education. This is despite research by Grossman and colleagues,<sup>21</sup> who indicated that education about breastfeeding support for health workers in hospitals could increase breastfeeding rates. Proper support by nursing staff is important to initiate and establish breastfeeding during hospitalization. In a Baby-Friendly Hospital Initiative by the World Health Organization and UNICEF,<sup>22</sup> it was noted that, in hospitals that handle delivery, all hospital staff involved with mothers and infants should receive training on breastfeeding support. It is critical to provide nurses with opportunities to learn about breastfeeding, irrespective of their primary role, because this improves the nursing care quality. In previous studies, no disadvantages have been shown when involving diverse nursing staff in breastfeeding support, or when asking nurses to provide breastfeeding support instead of midwives. We must therefore secure a system that can help newcomers and inexperienced staff adapt to the requirements of mixed wards because knowledge and skill

levels depend largely on postgraduate education alone in most cases. Per Spatz<sup>23</sup>, “all nurses, regardless of whether they plan to work with childbearing families or children, should receive basic education regarding breastfeeding and human lactation.<sup>p.499</sup>” It is critical that all nursing staffs share their knowledge and skills in a spirit of collaboration to ensure the provision of high-quality care for all mothers and their babies.

What became clear in this survey is that not only midwives but also nurses support breastfeeding for both mixed wards and obstetrics wards. Furthermore, it became clear that breastfeeding support care was established by the involvement of both midwives and nurses. However, the current survey did not clarify the relationship between breastfeeding rates and types of breastfeeding support persons. In addition, it has not been clarified whether receiving support from breastfeeding supporters who received sufficient training affects the breastfeeding rate and mothers’ satisfaction with breastfeeding. Further analysis is needed in future research.

The main limitation of this study is that we targeted specific areas in Japan; therefore, the results may not reflect national trends. In addition, many birthing facilities did not respond to the questionnaire. It is thus necessary to expand the scope of the current study.

In conclusion, slightly more than half of the facilities in this survey provided obstetric care in mixed wards, with approximately half of the nursing staff on these wards being midwives (although some only provided on-call midwife services at night). However, nurses did provide breastfeeding support in most of the facilities. It is thus necessary to provide

further education to healthcare workers, irrespective of job type, to ensure that all nurses can offer uniformly high-quality care to all new mothers and their children.

### **Acknowledgments**

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### **Conflict of interest**

No funding was received for this study. There are no conflicts of interest to disclose.

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Table 1. Characteristics of the participating nursing administrators

	<b>Overall</b>	<b>Obstetric ward<sup>a</sup></b>	<b>Mixed ward<sup>b</sup></b>
	<b>N = 52</b>	<b>n = 24</b>	<b>n = 28</b>
<b>Respondents' job</b>			
<b>Midwife</b>	42 (80.7)	20 (83.3)	22 (78.6)
<b>Nurse</b>	10 (19.3)	4 (16.7)	6 (21.4)
<b>Departments</b>	2 (1–21)	1	4 (2–21)
<b>Deliveries (per year)</b>	350 (20–1700)	450 (140–1400)	295 (20–1700)
<b>Staff</b>			
<b>All</b>	24 (6–56)	22.5 (6–56)	24 (8–41)
<b>Midwives</b>	11 (1–46)	10.5 (1–46)	11 (1–24)
<b>Registered nurses*</b>	6 (0–23)	4 (0–13)	10 (0–23)
<b>Assistant nurses</b>	1 (0–10)	3 (0–10)	1 (0–8)
<b>Assistants</b>	0 (0–7)	3 (2–7)	0 (0–6)

Data expressed as median (range) or n (%).

\*p < .01

<sup>a</sup>Wards accepting only maternity patients and neonates.

<sup>b</sup>Wards accepting patients other than maternity patients and neonates, regardless of conditions of acceptance such as sex and disease severity.

Table 2. Nursing system

	Overall	Obstetric ward	Mixed ward	p
	N = 52	n = 24	n = 28	
<b>Nursing system<sup>†</sup> (multiple selections)</b>				
<b>Fixed-team system</b>	20	6	14	
<b>Function-specific nursing</b>	21	14	7	
<b>Others</b>	14	5	9	
<b>Work shift system<sup>a†</sup></b>				
<b>2-shift system</b>	32 (61.5)	20 (83.3)	12 (42.9)	<u>.01</u>
<b>3-shift system</b>	19 (36.5)	4 (16.7)	15 (57.1)	
<b>Staff working at night<sup>†</sup></b>				
<b>One-staff</b>	9 (5.7)	5 (20.8)	4 (14.8)	
<b>≥ 2</b>	42 (94.3)	19 (79.2)	23 (85.2)	
<b>Staff <u>coverage</u><sup>b</sup></b>				
<b>Yes</b>	37 (71.2)	15 (62.5)	22 (78.6)	
<b>No</b>	15 (28.8)	9 (38.5)	6 (22.4)	

Data expressed as n (%).

<sup>†</sup>One facility where there was no answer.

<sup>a</sup>How 24 hours of work is divided.

<sup>b</sup>Whether staff are sent from one department to cover another.

Table 3. Tasks of midwives and nurses

	<b>Overall</b>	<b>Obstetric ward</b>	<b>Mixed ward</b>
	<b>N = 52</b>	<b>n = 24</b>	<b>n =28</b>
<b>Breastfeeding support staff</b>			
<b>Only midwives</b>	6 (11.5)	1 (4.2)	5 (17.9)
<b>Nurses also give support</b>	46 (88.5)	23 (95.8)	23 (82.1)
<b>Nurses support contents (n = 46)<sup>†</sup></b>			
<b>Unlimited</b>	34 (73.9)	18 (78.3)	16 (69.6)
<b>Limited</b>	11 (25.0)	4 (17.4)	7 (30.4)
<b>Nurses do not give support</b>	6 (11.5)	1 (4.2)	5 (17.9)
<b>Exclusive tasks for midwives<sup>a</sup></b>			
<b>Yes</b>	35 (67.3)	15 (62.5)	20 (71.4)
<b>No</b>	17 (33.7)	9 (27.5)	8 (28.6)

Data expressed as median (range) or n (%).

<sup>†</sup>One facility where there was no answer.

<sup>a</sup>Included maternity classes, breastfeeding clinics, breast care (guidance for massage and weaning), and dealing with breast problems.

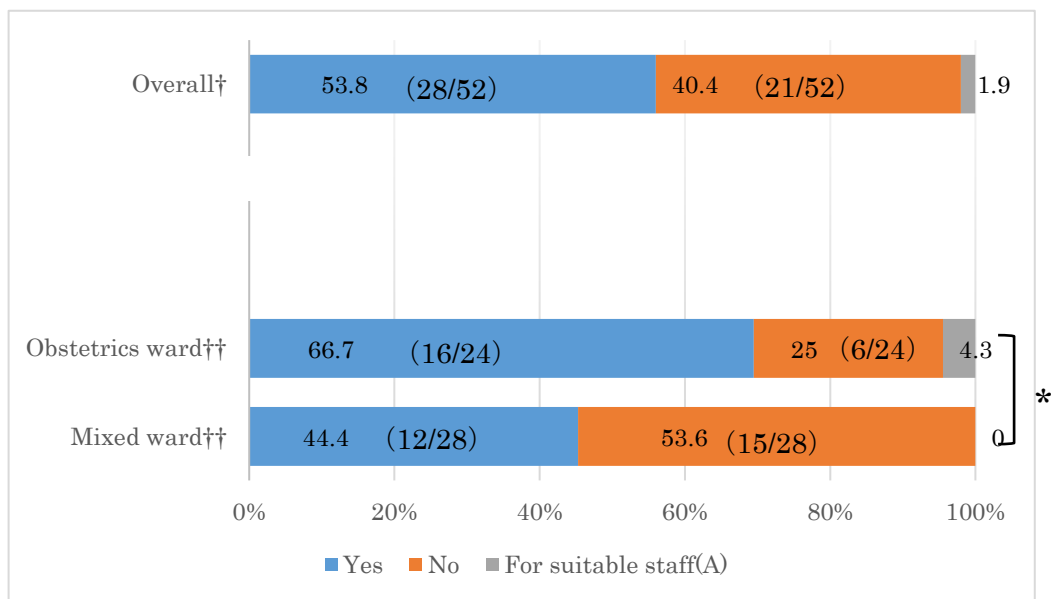


Figure 1. Staff education for breastfeeding support

†Respondents from two facilities gave no answer.

††One facility where there was no answer.

(A) For suitable staff: When there is a new comer that meets the conditions such as new graduates, work changes, etc.