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Work engagement among midwives working at advanced perinatal care facilities in Japan

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This study seeks to clarify the current situation and associated factors regarding Work Engagement (WE) among midwives working in advanced care facilities, which bear the brunt of care for high-risk pregnancies, as well as the contribution of WE to quality of care. A self-administered questionnaire survey was conducted in 2016 with the participation of 503 midwives working in 36 general perinatal maternal and child medical centers and with 125 nurses working at a university hospital selected for analysis as a comparison group. The survey used the Utrecht Work Engagement Scale and the Brief Job Stress Questionnaire, subjecting all results to multiple regression analysis to adjust the sample size. Results revealed that WE among midwives was not found to be significantly different from that among nurses. WE among midwives was found to be positively associated with the "presence of a role model" and "doctor support". In addition, WE as well as "career opportunities" and the "presence of a role model" were associated with quality of care (adjusted R^2 =0.137, P < 0.05). From the study, WE among midwives working at advanced perinatal care facilities was not found to be different from that among nurses working at university hospitals. Among factors contributing to higher WE, the presence of a role model and relationships of trust with physicians were found to be those that represented the occupational characteristics of midwifery.

Key words: Midwife, work engagement, job stress, role model, quality of care.

INTRODUCTION

In recent years, perinatal care in Japan has undergone marked changes that have included the concentration and prioritization of delivery facilities due to the declining birth rate and a shortage of obstetricians, as well as an increased number of high-risk deliveries resulting from advances in perinatal medicine. Accordingly, the construction of a safe and high-quality system of perinatal medical care is becoming an issue. Midwives are responsible for caring for independent low-risk mothers and children, and striving to ensure a safe and comfortable delivery, while also being called upon to provide life-saving and intensive care to high-risk mothers and children, including the psychological, social, and ethical aspects entailed by the care that goes along with this. It has been reported that approximately 40% of midwives working in university hospitals responsible for

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advanced perinatal care have less than five years of experience (Saitō et al., 2011). This demonstrates the high turnover rate among midwives and the reality that care is for the most part provided by midwives with little experience, and so it is easy to imagine the stress felt by midwives working in these situations.

Studies of stress among midwives have included reports of difficult feelings with respect to burnout (Fenwick et al., 2018), workplace stress (Geraghty et al., 2018) and professional stress (Wright et al., 2018). In Japan, studies of the few midwives employed at hospitals are limited, and in most cases, midwives are regarded as a subcategory of the nursing profession. Although these reports focused on how to prevent negative outcomes, more recent interest has targeted positive working factors, in the context of which the idea of "work engagement" (WE) has drawn considerable attention. WE have been defined as "a positive, fulfilling, work-related state of mind" (Schaufeli et al., 2002). Improving WE has been shown to positively influence mental health among nurses and contribute to improvements in quality of care (Havens et al., 2018; Bakker, 2018).

Although studies of WE in Japan are gradually drawing more attention in the field of occupational health, studies in the context of nursing occupations-especially midwifery-remain few in number. Therefore, this study sought to clarify the present situation and associated factors with regard to WE among midwives working in advanced care facilities, which bear the brunt of care for high-risk pregnancies, as well as the contribution of WE to quality of care. In doing so, we hoped to help the education for midwives, who represent a minority of staff in any one facility, as well as their work commitment, mental health, and quality of care, at the same time we expected to gain knowledge about how studies of WE among nursing occupations conducted overseas can be applied in Japan, which has a different culture and work environment.

MATERIALS AND METHODS

Participants and procedure

The study was designed as a quantitative cross-sectional study conducted by questionnaire survey. From among 104 general perinatal centers in Japan, we focused on midwives working in 36 hospitals that consented to participate in the survey. As a control group to compare with midwives, we administered the same survey to nurses working at a hospital affiliated with a national university in Japan. Institutional consent was written and individual participant's consent was agreed with the return. The questionnaire was mailed to the hospital and requested for distribution. The questionnaire forms were unsigned and were collected by mail. The period of the study was from February to March 2016. The response rate for midwives was 54%, with 503 questionnaires subjected to analysis after excluding 8 invalid responses. The response rate for nurses was 18%, with 125 questionnaires subjected to analysis after excluding 9 invalid responses. In the comparison of midwives and nurses, we performed multiple regression analysis using the forced input method, with individual factors (that is, age, working hours, and the presence or absence of night shifts) as adjustment factors. In addition, we performed multiple regression analysis using the stepwise method to analyze factors affecting quality of care. Here, dummy variables were input for working hours and the presence or absence of night shifts. We used IBM SPSS Statistics Version 25.0 for statistical analysis.

Measures

For WE, we used the Japanese short version of the Utrecht Work Engagement Scale (UWES-J) (Schaufeli et al., 2002; Shimazu et al. 2008). The scale considers the three factors of vigor, dedication, and absorption, with answers on a 7-point Likert scale from 0 (*never*) to 6 (*always*). The score is calculated as the average value of nine items, with higher scores associated with higher WE.

For occupational stress, we used the Brief Job Stress Questionnaire (BJSQ) (Kawakami, 2012). We used 15 items from 6 measures related to feelings of work burden, 15 items from 5 measures related to job characteristics, 15 items from 5 measures related to support, 18 items from 5 measures related to mental stress, 11 items from 1 measure related to physical stress, and 9 items from 5 measures related to outcomes. One of the outcome measures, "Work satisfaction" was analyzed as individual performance. Responses were scored on a 4-point Likert scale from 1 (*disagree*) to 4 (*agree*). The scale score uses the average value of the items, with higher scores associated with stronger agreement.

For sense of self-efficacy, we used 16 items from the General Self-Efficacy Scale (GSES) (Sakano and Tohjyo, 1986). We used the total number of items for which respondents answered "true." The higher the GSES score, the higher a respondent's sense of self-efficacy. As a measure of organizational performance, respondents were also asked to rank the statement "the quality of care in my department is high," as well as "there is a midwife (or nurse) in my department to whom I look as a role model," which sought to determine the presence or absence of a role model. For these, responses were obtained on a 4-point Likert scale from 1 (*disagree*) to 4 (*agree*).

As attributes, we asked questions about age, sex, basic nursing education institution, years of service, working hours per week, and the presence or absence of night shifts, as well as of partners and childcare experience. This study was approved by the Medical Ethics Committee of the University of Tsukuba Hospital (approval number H27-201,January 4, 2016).

RESULTS

Participant characteristics

The mean age of the midwives was 34.6 years, with a standard deviation (*SD*) of 9.0 years, and that of nurses was 33.3 years (*SD* 8.2), with no significant difference between the two groups. Those who had received nursing education in university accounted for 39.0% of midwives and 40.0% of nurses, with no significant difference. Whereas 90% of midwives responded affirmatively to working night shifts, only 68.8% of nurses did so, which constitutes a significantly higher proportion for midwives ($P < 0.05$). No significant differences were found with respect to the presence or absence of partners or childcare experience (Table 1).

Table 1. Demographic characteristics among midwives and nurses.

Characteristics	Midwife (n=503)		Nurse (n=125)		P-value
	Mean	SD	Mean	SD	
Age (years)[a]	34.6	9.0	33.3	8.2	
Nursing educational institution	n	%	n	%	
University	196	(39.0)	50	(40.0)	
College	94	(18.7)	23	(18.4)	
Vocational school	206	(41.0)	50	(40.0)	
Working hours (hours)b					
≥40	340	(67.6)	85	(68.0)	
≥30, <40	144	(28.6)	28	(22.4)	P < 0.05
<30	13	(2.6)	10	(8.0)	
Night shift[b]					
With	451	(90.0)	86	(68.8)	P < 0.05
Without	52	(10.0)	38	(30.4)	
Relationship status[b]					
With partner	224	(44.5)	49	(39.2)	
Without partner	263	(52.3)	73	(58.4)	
Parenting experience[b]					
With	71	(14.1)	39	(31.2)	
Without	431	(85.7)	83	(66.4)	

[a]Age compared using t-test; [b]Nursing educational institution, working hours, night shift, relationship status, and parenting experience were compared using $\chi 2$ test. P<0.05.

Comparisons of work engagement, self-efficacy, presence of a role model, and quality of care between midwives and nurses

Midwives and nurses were compared in terms of WE, self-efficacy, presence of a role model, and quality of care. Multiple regression analysis using the forced input method was performed with individual factors (that is, age, working hours, and the presence or absence of night shifts) as adjustment factors (Table 2).

WE scores according to the UWES-J were 3.17 (*SD* 0.98) for midwives and 3.05 (*SD* 1.13) for nurses, with no significant differences observed in terms of WE score. Self-efficacy scores according to the GSES were 7.21 (*SD* 2.36) for midwives and 7.37 (*SD* 2.42) for nurses, with no significant differences observed just as with WE. For the question "there is a midwife (or nurse) in my department to whom I look as a role model" (presence of a role model), whereas midwives scored 2.79 (*SD* 0.90), nurses scored 2.61 (*SD* 0.94), representing a significantly higher score for midwives (P < 0.05). For the statement "the quality of care in my department is high" (self-evaluated quality of care), whereas midwives scored 2.79 (*SD* 0.67), nurses scored 2.48 (*SD* 0.80), representing a significantly higher score for midwives.

Comparison of occupational Stress between midwives and nurses

Using multiple regression analysis with individual factors (that is, age, working hours, and the presence or absence of night shifts) as adjustment factors, we compared scores on the various BJSQ scales for midwives and nurses (Table 2). Midwives were found to have significantly higher scores with regard to "job control", "meaningfulness of work", "career opportunity", "coworker support", "supervisor leadership", "work-life balance (positive)", and "work satisfaction". Conversely, they had significantly lower scores than nurses with regard to "role conflict", "novelty", "physical stress response", and "workplace harassment".

Factors associated with work engagement for midwives

Taking midwives' WE measured by the UWES-J as a dependent variable and individual factors (that is, age and presence or absence of night shifts, of partners, and of childcare experience) as independent variables, we introduced self-efficacy measured by the GSES and job

Table 2. Comparisons of work engagement, self-efficacy, presence of a role model, and quality of care between midwives and nurses.

Measure	Midwife (*n*=503)		Nurse (n=125)		Adjusted P-value
	Mean	***SD***	**Mean**	**SD**	
UWES-J total score (Work engagement)	3.17	(0.98)	3.05	(1.13)	
Vigor	2.92	(1.07)	2.76	(1.12)	
Dedication	3.69	(1.08)	3.51	(1.20)	
Absorption	2.89	(1.16)	2.79	(1.20)	
GSES score (Self-efficacy)	7.21	(2.36)	7.37	(2.42)	
There is a midwife (or nurse) in my department to whom I look as a role model (Presence of a role model)					
	2.79	(0.90)	2.61	(0.94)	P < 0.05
The quality of care of my department is high (Self-evaluated quality of care)					
	2.79	(0.67)	2.48	(0.80)	P < 0.05
BJSQ					
Quantitative job overload	3.18	(0.52)	3.18	(0.59)	
Qualitative job overload	3.45	(0.48)	3.41	(0.44)	
Physical demands	3.24	(0.63)	3.23	(0.82)	
Emotional demands	2.97	(0.68)	3.03	(0.66)	
Role conflict	2.34	(0.56)	2.55	(0.56)	P < 0.05
Work-life balance (negative)	2.25	(0.82)	2.36	(0.83)	
Job control	2.41	(0.55)	2.28	(0.60)	P < 0.05
Meaningfulness of work	3.41	(0.58)	3.15	(0.66)	P < 0.05
Career opportunity	3.08	(0.56)	2.85	(0.64)	P < 0.05
Novelty	2.53	(0.58)	2.63	(0.59)	P < 0.05
Predictability	2.31	(0.58)	2.28	(0.59)	
Doctor support	2.06	(0.56)	2.02	(0.63)	
Supervisor support	2.53	(0.64)	2.46	(0.67)	
Co-worker support	3.07	(0.65)	2.94	(0.71)	P < 0.05
Support from family and friends	3.48	(0.61)	3.49	(0.60)	
Supervisor leadership	2.70	(0.62)	2.46	(0.72)	P < 0.05
Psychological stress response	2.16	(0.45)	2.23	(0.49)	
Physical stress response	1.81	(0.53)	1.97	(0.61)	P < 0.05
Work-life balance (positive)	2.36	(0.71)	2.08	(0.79)	P < 0.05
Work social capital	2.68	(0.53)	2.68	(0.56)	
Workplace harassment	1.59	(0.71)	1.80	(0.92)	P < 0.05
Work satisfaction	2.44	(0.72)	1.63	(0.77)	P < 0.05
Life satisfaction	2.74	(0.81)	2.59	(0.89)	

SD, standard deviation. Age, presence or absence of night shifts, and working hours were used as independent variables to adjust for interactions. Multiple regression analysis was performed using the forced input method, P< 0.05.

factors according to the BJSQ and performed multiple regression analysis using the stepwise method. Factors identified as having a significant positive relationship with WE among the individual factors were higher age and higher self-efficacy, and the presence of a partner; among the job factors were “meaningfulness of work” and “predictability”; and among the support factors were “presence of a role model” and “doctor support”. “Physical stress response” was negatively related (adjusted R^2=0.302, P < 0.05) (Table 3).

Factors associated with quality of care

Taking “self-evaluated quality of care” as a dependent variable and individual factors (that is, age and presence or absence of night shifts, of partners, and of childcare experience), we introduced WE as measured by UWES-J, self-efficacy as measured by the GSES, and job

Table 3. Factors related to work engagement among midwives N=503.

Dependent variable		
UWES-J score (work engagement)	**Adjusted $R^2 = 0.301$, $P < 0.05$**	
Independent variable	β	95% CI
BJSQ Meaningfulness of work	0.347	0.46, 0.73
BJSQ Physical stress reaction	-0.165	-0.45, -0.16
Age	0.157	0.01, 0.03
BJSQ Doctor support	0.138	0.10, 0.38
GSES score (self-efficacy)	0.124	0.02, 0.08
With partner	0.100	0.03, 0.37
BJSQ Predictability	0.099	0.04, 0.30
Presence of a role model	0.090	0.02, 0.36

Multiple regression analysis was performed using the stepwise method. β: Standardized partial regression coefficient, P< 0.05.

Table 4. Factors related to self-evaluated quality of care among midwives N=503.

Dependent variable		
Self-evaluated quality of care	**Adjusted R^2=0.137, $P < 0.05$**	
Independent variable	β	95%CI
BJSQ Career opportunity	0.196	0.13, 0.35
Presence of a role model	0.175	0.07, 0.20
UWES-J score (work engagement)	0.141	0.04, 0.16

Multiple regression analysis was conducted using the stepwise method. β: Standardized partial regression coefficient, P< 0.05.

factors according to the BJSQ and performed multiple regression analysis using the stepwise method. As a result, in addition to WE, the BJSQ "career opportunity" and "presence of a role model" remained as two additional related factors (adjusted R^2=0.137, $P < 0.05$) (Table 4).

DISCUSSION

WE among midwives working in general perinatal centers in Japan was not significantly different from that among nurses working at the university hospital in Japan; meaningful work was perceived as an opportunity for personal growth and did not escalate into conflict or stress. At the same time, job satisfaction and self-evaluation of the quality of care among midwives were found to be higher than those among nurses. "Doctor support" and the "presence of a role model," which enhanced WE for midwives, were both factors that represented the occupational characteristics of midwifery. Furthermore, it became clear that WE among midwives contributed to improving quality of care. Below, we discuss the characteristics of WE among midwives and prospective directions for management.

WE among midwives working in general perinatal centers was not significantly different from that among nurses working at the university hospital. This result ran contrary to our expectation that WE for midwives working at advanced medical facilities would be low as a result of working in a stressful job environment. Midwives did not perceive any contradiction in the qualitatively distinct duties of caring for high-risk and low-risk mothers and children, but rather perceived it to be a profession in which they were able to feel a sense of self-growth. This may be due to the fact that the consistency of the subjects of care-as mothers and children and as families-did not produce any sense of difficulty with regard to the direction of care.

However, WE among the midwives and nurses surveyed in this study was higher than among the Japanese women in their thirties surveyed by Shimazu et al. (2014). Although a high job turnover rate prevails among nursing professionals, it appears that pride in having meaningful work serves to enhance WE.

Among the factors serving to enhance WE among midwives, the "presence of a role model" and "doctor support" were both factors that represented the occupational characteristics of midwifery. Midwives, who possess outstanding "skills," including delivery assistance and breastfeeding care, and who are able to provide autonomous care, are fine educators who can serve as a

mentor for their junior colleagues and personnel, exhibiting an ability to stimulate their organizations. On the other hand, relationships of trust and collaboration with obstetricians are indispensable when dealing with non-routine deliveries. Nakayama and Nojima (2001) reported "management systems," "interpersonal relationships in the workplace," "professionalism," and "self-actualization as nurses" as four factors inherent to nurses' job satisfaction. Kawauchi and Ōhashi (2011) reported the existence of a correlation between WE and job satisfaction for people intending to leave their jobs, suggesting that the more pride one takes in being a nursing professional, the more likely they will be to leave their job in order to find self-actualization. Hospitals in which midwives feel more engaged should be organizations staffed by midwives who are respected and regarded as something to aspire to by their colleagues; by obstetricians who are able to build relationships of trust with midwives; and which are able to provide high-quality care. Organizations that are able to provide high-quality care may be said to produce positive effects not only for the party receiving care, but also for the party providing it. In addition to managing turnover among midwives from the standpoint of job satisfaction, management is also required to promote the growth of midwives as experts. Although the Japanese workforce is characterized by some of the lowest levels of WE in global terms, it has been suggested that this is related to the emphasis placed on cooperativeness and the relative scarcity of self-expression (Shimazu et al., 2010). Because of this emphasis on cooperativeness, even when they possess the capability, many people remain unwilling to demonstrate leadership and become nursing administrators. Enhancing WE on the part of administrators themselves as personnel able to become role models may be a step on the path to building a more positive organization.

Conclusion

WE among midwives working at advanced perinatal care facilities in Japan different from that found among nurses, they also perceived midwifery as an occupation contributing to their own personal growth. The presence of a role model and relationships of trust with physicians served to enhance WE among midwives. WE contribute to improving quality of care and management that supports midwives' professional growth is to be desired. As a limitation of this paper, it cannot be generalized because it targets midwives working in Japan and the response rate was low.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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REFERENCES

Bakker AB (2018). Job crafting among health care professionals: The role of work engagement. Journal of Nursing Management 26(3):321-331.

Fenwick J, Lubomski A, Creedy DK, Sidebotham M (2018) Personal, professional and workplace factors that contribute to burnout in Australian midwives. Journal of Advanced Nursing 74(4):852-863

Geraghty S, Speelman C, Bayes S (2018). Fighting a losing battle: Midwives experiences of workplace stress. Women and Birth 32(3):e297-e306.

Havens DS, Gittell JH, Vasey J (2018). Impact of relational coordination on nurse job satisfaction, work engagement and burnout: Achieving the quadruple aim. Journal of Nursing Administration 48(3):132-140.

Kawakami N (2012). Survey of measures to promote primary prevention related to mental health disorders in the workplace (In Japanese). 2011 Research Grant for Health Sciences Integrated Occupational Health and Safety Research Project

Kawauchi E, Ohashi K (2011). Relationship among work engagement, job satisfaction and turnover intention of registered midwives and nurses working in public hospitals providing secondary medical care. The Journal of the Japan Academy of Nursing Administration and Policies 15:39-46.

Nakayama Y, Nojima S (2001). The current state of nursing research: Perspectives on changing the status quo (3) Analysis of factors related to job satisfaction and intention to continue working among nurses (in Japanese). Kango [Japanese Journal of Nursing], 53(8):81-91

Saitō M, Ishikawa N, Matsunaga Y, Ymazaki K, Yoneyama M, Ueno M (2011). The state of perinatal healthcare in the Tokyo metropolitan area and satisfaction among physicians and midwives involved therein (in Japanese). Tokyo Journal of Maternal Health 27(1):15-25.

Sakano Y, Tohjyo M (1986). The General self-efficacy scale (GSES): Scale development and validation. (In Japanese) Japanese Association of Behavioral and Cognitive Therapies 12(1):73-82

Schaufeli WB, Salanova M, González-Romá V, Bakker AB (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. Journal of Happiness Studies 3(1):71-92

Shimazu A, Kosugi S, Suzuki A, Iyadomi M, Shiget, J, Nagam, M (2014). The reliability and validity of the Japanese version of the Utrecht Work Engagement Scale (UWES-J): (2) Investigation of sex and age (in Japanese). Journal of the Japan Society for Occupational Health, 50 (Supplement)

Shimazu A, Schaufeli WB, Kosugi S, Suzuki A, Nashiwa H, Kato A, Goto R (2008). Work engagement in Japan: validation of the Japanese version of the Utrecht Work Engagement Scale. Applied Psychology 57(3):510-523.

Shimazu A, Schaufeli WB, Miyanaka D, Iwata N (2010). Why Japanese workers show low work engagement: An item response theory analysis of the Utrecht Work Engagement scale. BioPsychoSocial Medicine 4(1):17.

Wright EM, Matthai MT, Budhathoki C (2018). Midwifery professional stress and its sourcing: a mixed-methods study. Journal of Midwifery and Women's Health 63(6):6609-667.