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Original Article

Japanese Nursing Staff's Knowledge and Attitude toward Bereavement Care for Couples with Miscarriage/Stillbirth and Its Associated Factors

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Bereavement care is conducted to meet the emotional needs of grieving couples who are devastated by the experience of a miscarriage or stillbirth. From January to April 2022, we distributed a questionnaire that assessed the knowledge and attitudes of Japanese nursing staff (nurses and midwives) in Japan's Chugoku-Shikoku region toward bereavement care for couples with miscarriage/stillbirth. The 370 survey respondents' answers revealed that the nursing staff's knowledge regarding recurrent pregnancy loss and subsequent bereavement care was insufficient. About 41.1% and 64.1% of the respondents had received school and on-the-job education in bereavement care, respectively, and 79.2% expressed willingness to provide such care. Our analyses revealed that the following factors were associated with the nursing staff's knowledge level: parent status, age, reproductive history, midwifery license, work experience and environment, and on-the-job education. The following were correlated with the staff's willingness to provide bereavement care: work environment, midwifery license, bereavement care knowledge, and on-the-job education. Together our findings indicate that education plays a significant role in equipping caregivers to provide effective bereavement care for couples who have experienced a miscarriage or stillbirth.

Key words: midwife, nurse, miscarriage, bereavement, knowledge

Miscarriages and stillbirths are tragic events that occur in millions of families worldwide each year. Miscarriage is generally defined as the loss of a pregnancy before viability, occurring in 15.3% of all confirmed pregnancies [1]. In Japan, stillbirth is defined as the end of pregnancy after 22 weeks of gestation, with a reported rate of 2.7 per 1,000 births in 2021 [2]. Each year globally, there are approx. 2.6 million stillbirths, which refers to the death of a baby occurring in-utero after 28 weeks of gestation [3].

The grief that often accompanies a miscarriage or stillbirth may lead to serious mental disorders for parents, such as depression, anxiety, and post-traumatic stress disorder (PTSD) [4]. In a recent UK study, 25% of women were found to be likely to meet the criteria for PTSD at 1 month after experiencing a miscarriage, 32% for anxiety, and 16% for depression [5]. Stillbirth has been described as one of the "most shamefully neglected" areas of public health [6]. A British qualitative study revealed that the majority of women who have had a stillbirth experienced "stigma" [7]. Women who have experienced a stillbirth have a higher incidence (14.8%) of current depression compared to women who have had live births without complications (8.3%), and this depression may persist for ≥ 4 years in roughly 50%

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of affected women [8, 9].

The support currently offered to couples with miscarriage/stillbirth worldwide is known as "bereavement care". This type of care is focused on providing respectful and supportive measures such as shared decision-making, adequate communication, recognition of parenthood, and effective support. Specifically, healthcare professionals should use simple and appropriate language, provide adequate and personalized information, offer options for parents to see and hold their baby, and provide keepsake items such as photographs, footprints, or baby clothes to help parents create meaningful memories and support the grieving process [10, 11]. In Japan, "grief care" is provided to support couples who have experienced a miscarriage/stillbirth, which is consistent with "bereavement care" [12]. A study also concluded that a structured supportive intervention implemented immediately after a miscarriage can help women through the grieving process [13].

Possessing an adequate level of knowledge regarding bereavement is beneficial for nursing staff who provide bereavement care in their practice. However, professional knowledge of bereavement care for parents who experience miscarriages and stillbirths is limited among healthcare staff [14]. Most nursing staff lack basic knowledge of pregnancy loss and bereavement care [15]. A Flemish study demonstrated that most midwives (72.4%) lacked knowledge regarding miscarriages [14]. Moreover, their knowledge regarding counselling and communication skills, the bereavement process experienced by couples, pain management, and guidance for subsequent pregnancies was also found to be insufficient [15].

In addition, a shortage of bereavement care educational resources has been reported [16]. In a survey of > 2,000 UK healthcare providers, a third of the respondents reported that they were dissatisfied with their training regarding parent counseling [17]. Approximately 75% of Italian healthcare providers had never received specific training on bereavement care after stillbirth, at university or after graduation [18]. There have been few studies of the knowledge of nursing staff in Japan concerning bereavement care, although research on bereavement care has been emphasized in Japan in recent years.

Positive attitudes among healthcare professionals can help couples better cope with their bereavement and create positive memories for the future. Research conducted in Hong Kong on the attitudes of midwives and nurses toward bereavement care indicated that the majority of nursing staff had a positive attitude toward bereavement care [19]. The factors that were observed to influence the nursing staff's attitude toward bereavement care included the staff member's age, the experience of bereavement care, religious beliefs, the perception of hospital policies, and training in bereavement care [19, 20].

There are various facilities where staff may have access to women with pregnancy loss. However, different healthcare centers serve different groups of patients. For example, Assisted Reproductive Technology (ART) clinics primarily focus on addressing infertility. Nurses within these settings aspire to facilitate successful pregnancies. In contrast, Gynecology and Obstetrics clinics/hospitals, as well as general hospitals, mainly handle regular pregnancies while also handling cases of miscarriage and stillbirth. Given these variations in patient populations, we hypothesize potential differences in nursing staff attitudes and knowledge concerning bereavement care for couples experiencing miscarriage or stillbirth across these three medical facilities.

It has been proposed that a major reason for dissatisfaction with bereavement care may be due to insufficient training to establish the correct understanding and attitude toward bereavement care, which lessens caregivers' enthusiasm to provide bereavement care and even causes them to avoid emotional contact with couples [21]. We conducted the present study to describe and compare the knowledge and attitudes of nursing staff regarding bereavement care, as well as associated factors, across several Japanese medical institutions.

Materials and Methods

Study design. Self-completed questionnaires were returned to us between January and April 2022 by nursing staff working in hospitals or clinics. The content of the survey was based on our research team's previous findings [22, 23]. The survey questions encompassed the respondent's demographic characteristics (age, gender, marital status, and educational background) and his or her gestational history. Nursing staff were asked about their knowledge of pregnancy loss, including mainly the definitions, risk, and epidemiology of miscarriage and recurrent pregnancy loss (RPL). The survey questions concerning the respondent's knowledge of

bereavement care included queries about the psychological characteristics of couples who experienced miscarriage/stillbirth, the definition and efficacy of bereavement care, and specific components such as follow-up care. The third part of the survey comprised questions on the attitude of nursing staff toward bereavement care, which included their willingness to provide care, the perceived impact of care on the family and the nursing staff themselves, and the appropriate timing for providing such care. Ethical approval for this study was obtained from the Medicine Ethics Committee of Okayama University Hospital (No. 2201-292).

Nursing staff recruitment. All of the hospitals and clinics that admitted women who had experienced miscarriage or stillbirth in the Chugoku-Shikoku region in Japan were selected via their websites. According to the Kendall sample estimation method for multivariate analysis, the sample size should be taken from 10 to 20 times the number of independent variables [24]. Eighteen independent variables were covered in this study. Thus, the preliminary sample size calculated was 180-360 participants. Allowing a non-response rate of 20%, the minimum sample size was determined to be 216 participants in the survey.

The representatives of the 202 institutions were contacted by mail. Forty-three institutions responded and assured cooperation (including 503 nursing staff). A final total of 388 nursing staff returned the survey. The informed consent of each respondent was obtained by mail. The respondents were required to indicate their consent to participate by ticking a box before proceeding to the survey.

Statistical analyses. The survey data and other data were analyzed using IBM SPSS ver. 27.0 (IBM, Armonk, NY, USA) using descriptive statistics and frequencies. The Kruskal-Wallis test was used to analyze the significance of differences in non-normally distributed continuous variables. The χ^2-test or Fisher's exact test was used to compare the proportions of different groups, and probability (p)-values < 0.05 were considered significant. *Post-hoc* test was conducted using the Bonferroni method when a significant difference was detected by either method.

Assisted reproductive technology (ART) clinics provide infertility services and treatments such as in vitro fertilization (IVF). Gynecology and obstetrics clinics/hospitals refer to medical facilities that specialize in providing healthcare services related to women's reproductive health (referred to as Japanese gynecology and obstetrics clinics and hospitals in this study). General hospitals are medical facilities that provide a wide range of healthcare services (referred to herein as university-affiliated hospitals or general hospitals).

Six items concerning the survey respondent's knowledge of pregnancy loss and 11 items about bereavement care were presented. The respondents were required to indicate whether or not they knew about each of these 17 items. Their knowledge was evaluated by summing the total number of items known.

Knowledge score classification was based on the median deviation considering less affected by outliers, captures data distribution's central tendency, balances sample classes, and is easy to compute and understand. Thus, a score less than the median was considered insufficient knowledge, while a higher value was considered sufficient.

Validity and reliability. The designed knowledge scale was reviewed by several experts. The content validity index (CVI) for the knowledge scale was 0.868 and the internal consistency Cronbach's α coefficient for the knowledge scale was 0.832, all of which were acceptable.

Results

The respondents' characteristics. A total of 388 completed questionnaires were obtained from the 503 surveys distributed (recovery rate: 77.1%) at 43 institutions. We excluded 18 of the 388 questionnaires because they had < 50% of the items completed. A final total of 370 questionnaires were used in the analyses (valid response rate: 95.4%). The respondents' median [range] age was 42 [23-65] years; 67% were married, 45.9% had children, 63.8% had childbearing experience, 65.1% had graduated from nursing school, and 71.9% had a midwifery license (Table 1).

The respondents' pregnancy loss knowledge. The respondents' average score regarding pregnancy loss was 5 [0-6] (median [range]) (Table 2). The survey revealed that the highest level of knowledge among the respondents was related to the item "The rate of miscarriage increases as women get older" (95.9%). However, the respondents' knowledge regarding "The cause of approximately 65% of cases of recurrent pregnancy loss is unknown" was relatively low at 45.1%.

Table 1 Characteristics of study population

		Total (n = 370)	ART clinics (n = 57)[a]	Gynecology and obstetrics clinics/hospitals (n = 118)[b]	General hospitals (n = 195)[c]	*P*-value	Multiple comparisons
Age		42 [23–65]	39 [26–59]	46.5 [28–65]	41 [23–60]	0.000†	b vs. c < 0.01§
Gender	Woman	369 (99.7%)	56 (98.2%)	118 (100%)	195 (100%)		
Marital status	Single	91 (24.6%)	14 (24.6%)	12 (10.2%)	65 (33.3%)	0.000‡	a vs. b, b vs. c < 0.01§
	Married	248 (67.0%)	36 (63.2%)	93 (78.8%)	119 (61.0%)		b vs. c < 0.01§
	Divorced or widowed	29 (7.8%)	7 (12.3%)	12 (10.2%)	10 (5.1%)		
Child	Yes	170 (45.9%)	24 (42.1%)	71 (60.2%)	75 (38.5%)	0.007‡	b vs. c < 0.01§
	No	74 (20.0%)	11 (19.3%)	16 (13.6%)	47 (24.1%)		
Fertility-related experience	Childbirth	236 (63.8%)	34 (59.6%)	91 (77.1%)	111 (56.9%)	0.002‡	b vs. c < 0.01§
	Miscarriage	82 (22.2%)	5 (8.8%)	36 (30.5%)	41 (21.0%)	0.005‡	a vs. b, a vs. c < 0.01§
	Stillbirth	6 (1.6%)	0 (0%)	4 (3.4%)	2 (1.0%)	0.165‡	
	Infertility	56 (15.1%)	9 (15.8%)	22 (18.6%)	25 (12.8%)	0.347‡	
	Recurrent pregnancy loss	9 (2.4%)	1 (1.8%)	5 (4.2%)	3 (1.5%)	0.276‡	
Death experience	Death of own child	2 (0.5%)	0 (0%)	1 (0.8%)	1 (0.5%)	0.775‡	
	Death of familiar person	83 (22.4%)	15 (26.3%)	27 (22.9%)	41 (21.0%)	0.716‡	
Education background	Nursing school	241 (65.1%)	47 (82.5%)	78 (66.1%)	116 (59.5%)	0.006‡	a vs. c < 0.01§
	University and above	127 (34.3%)	10 (17.5%)	39 (33.1%)	78 (40.0%)		a vs. c < 0.01§
Qualifications	Nurse	104 (28.1%)	44 (77.2%)	36 (30.5%)	24 (12.3%)	0.000‡	a vs. b, a vs. c, b vs. c < 0.01§
	Midwife	266 (71.9%)	13 (22.8%)	82 (69.5%)	171 (87.7%)		a vs. b, a vs. c, b vs. c < 0.01§
Work setting	Outpatient	69 (18.6%)	42 (73.7%)	17 (14.4%)	10 (5.1%)	0.000‡	a vs. b, a vs. c, b vs. c < 0.01§
	Inpatient	117 (31.6%)	0 (0%)	18 (15.3%)	99 (50.8%)		a vs. b, a vs. c, b vs. c < 0.01§
	Both	182 (49.2%)	15 (26.3%)	82 (69.5%)	85 (43.6%)		a vs. b, a vs. c, b vs. c < 0.01§
Work years		7.8 [0.1–35]	4.7 [0.5–28.3]	7.8 [0.1–30]	10.4 [0.8–34.9]	0.014†	a vs. b < 0.05, a vs. c < 0.01§
Work hours/ week		40 [10–58]	40 [22–50]	40 [13–56]	40 [24–58]	0.030†	a vs. c < 0.05§
The number of patients/ year	Miscarriage	30 [0–237]	50 [10–150]	30 [2–100]	20 [0–60]	0.000†	a vs. b, a vs. c < 0.001§
The number of patients/ year	Stillbirth	2 [0–50]	0 [0–3]	1 [0–40]	5 [0–30]	0.000†	a vs. b < 0.01, a vs. c, b vs. c < 0.001§

median [range], N (%), †: Kruskal–Wallis test, ‡: χ^2-test/Fisher's exact test, §: *post-hoc* test by Bonferroni; a, ART clinics; b, Gynecology and obstetrics clinics/hospitals; c, General hospitals.

Table 2 Knowledge of pregnancy loss and bereavement care

	Total (n = 370)	ART clinics (n = 57)[a]	Gynecology and obstetrics clinics/hospitals (n = 118)[b]	General hospitals (n = 195)[c]	*P*-value	Multiple comparisons
Knowledge of pregnancy loss						
The rate of miscarriage increases with age in women	355 (95.9%)	57 (100%)	112 (94.9%)	186 (95.4%)	0.236‡	
Miscarriages tend to occur before the 12th week of pregnancy	347 (93.8%)	52 (91.2%)	114 (96.6%)	181 (92.8%)	0.277‡	
Risk factors for recurrent pregnancy loss include chromosomal abnormalities, coagulation abnormalities, uterine abnormalities, endocrine abnormalities, and numerous other causes	346 (93.5%)	56 (98.2%)	114 (96.6%)	176 (90.3%)	0.025‡	
Miscarriage occurs in 10~15% of all pregnancies	287 (77.6%)	46 (80.7%)	102 (86.4%)	139 (71.3%)	0.006‡	b vs. c < 0.01§
A history of two or more miscarriages is referred to as recurrent pregnancy loss	287 (77.6%)	52 (91.2%)	97 (82.2%)	138 (70.8%)	0.002‡	a vs. c < 0.01§
The cause of approximately 65% of cases of recurrent pregnancy loss is unknown	167 (45.1%)	32 (56.1%)	60 (50.8%)	75 (38.5%)	0.020‡	
Total score:	5 [0–6]	5 [2–6]	5 [3–6]	5 [0–6]	0.000†	a vs. c, b vs. c < 0.01§
Knowledge of bereavement care						
Bereavement care is a psychological support for deep grief after miscarriage/stillbirth	324 (87.6%)	44 (77.2%)	110 (93.2%)	170 (87.2%)	0.010‡	a vs. b < 0.01§
Women who have experienced miscarriages tend to have long-term mental health problems	311 (84.1%)	51 (89.5%)	102 (86.4%)	158 (81.0%)	0.214‡	
Bereavement care supports the family in creating memories of the baby	296 (80.0%)	36 (63.2%)	102 (86.4%)	158 (81.0%)	0.001‡	a vs. b, a vs. c < 0.01§
It is a continuous process according to the wishes of the individual and the stage of grief	293 (79.2%)	41 (71.9%)	92 (78.0%)	160 (82.1%)	0.235‡	
Bereavement care is to face grief after “meeting” and “parting” with the baby	281 (75.9%)	38 (66.7%)	99 (83.9%)	144 (73.8%)	0.027‡	a vs. b < 0.01§
Inappropriate encounters with stillborn baby are likely to lead to depression, anxiety, and post-traumatic stress	276 (74.6%)	43 (75.4%)	88 (74.6%)	145 (74.4%)	0.987‡	
The experience of the death of a loved one and lack of support from partners and society are risk factors for the deterioration of women’s mental health after a miscarriage	270 (73.0%)	38 (66.7%)	89 (75.4%)	143 (73.3%)	0.467‡	
If the grief is successfully overcome, subsequent depression, anxiety, and stress may be alleviated	261 (70.5%)	39 (68.4%)	91 (77.1%)	131 (67.2%)	0.162‡	
If a woman becomes pregnant without having recovered from her grief after a miscarriage, it may affect her positive attitude towards pregnancy and the postpartum mother-child relationship	251 (67.8%)	36 (63.2%)	80 (67.8%)	135 (69.2%)	0.689‡	
After a miscarriage, while taking into account the grief, the medically necessary process should be followed steadily, which will eventually lead to a sense of security for the next pregnancy	241 (65.1%)	37 (64.9%)	86 (72.9%)	118 (60.5%)	0.084‡	
There are “peer support groups” where women experienced miscarriage/stillbirth can communicate and share information and feelings	213 (57.6%)	27 (47.4%)	64 (54.2%)	122 (62.6%)	0.084‡	
Total score:	9 [0–11]	9 [0–11]	9 [0–11]	9 [0–11]	0.349†	

median [range], N (%), †: Kruskal–Wallis test, ‡: χ^2-test/Fisher’s exact test, §: *post-hoc* test by Bonferroni; a, ART clinics; b, Gynecology and obstetrics clinics/hospitals; c, General hospitals.

The respondents' bereavement care knowledge. The respondents' average score concerning bereavement care was 9 [0-11] (Table 2). The item with the highest awareness rate was "Bereavement care is a psychological support for deep grief after miscarriage/stillbirth," with 87.6% of the respondents indicating knowledge of this item. In contrast, "There are peer support groups where women who have experienced miscarriage/stillbirth can communicate and share information and feelings" had a relatively low awareness rate of 57.6%.

The respondents' bereavement care education. The survey responses indicated that 41.1% of the respondents had received school education on bereavement care, with classes being the most common form (91.4%) (Table 3). The percentage of respondents who received school education was significantly higher in the general hospitals (48.2%) compared to the ART clinics (24.6%) ($p=0.004$). On-the-job bereavement care education was reported by 64.1% of the respondents, with 69.6% receiving it through clinical practice. The percentage of respondents who received on-the-job education was significantly lower in the ART clinics (47.4%) compared to the general hospitals (69.7%) ($p=0.004$).

The respondents' attitudes toward bereavement care. The survey results demonstrated that 79.2% of the respondents were willing to provide bereavement care (Table 4). No significant difference in this willingness was identified among the nursing-staff respondents at the general hospitals, gynecology and obstetrics clinics/hospitals, and ART clinics. The survey also revealed that 99% of the nursing staff believed that bereavement care was effective for mothers, 97% for fathers, and 72.4% for themselves. In terms of when bereavement care should be initiated, 78.9% believed it should start with the first stillbirth, and 65.1% believed it should begin with the first miscarriage.

Factors associated with the respondents' knowledge and attitude. The following respondents scored significantly higher in terms of knowledge of pregnancy loss (Table 5): those who had children ($p=0.000$), were aged >30 years ($p=0.002$), had a history of childbirth ($p=0.000$), had a miscarriage/stillbirth experience ($p=0.017$), had a history of infertility treatment ($p=0.013$), were married ($p=0.012$), worked in an ART clinic or gynecology and obstetrics clinic/hospital ($p=0.002$), worked in both inpatient and outpatient/only an outpatient unit ($p=0.001$), worked as nursing staff for >16 years ($p=0.009$), and those who had received on-the-job education ($p=0.012$).

The survey responses also demonstrated that the midwives had significantly better knowledge of

Table 3 Education of bereavement care

	Total (n=370)	ART clinics (n=57)[a]	Gynecology and obstetrics clinics/hospitals (n=118)[b]	General hospitals (n=195)[c]	*P*-value	Multiple comparisons
School education						
No	207 (55.9%)	41 (71.9%)	70 (59.3%)	96 (49.2%)	0.004‡	a vs. c<0.01§
Yes	152 (41.1%)	14 (24.6%)	44 (37.3%)	94 (48.2%)		
Class	139 (91.4%)	12 (85.7%)	37 (84.1%)	90 (95.7%)	0.001‡	a vs. c, b vs. c<0.01§
Internship	17 (11.2%)	2 (14.3%)	6 (13.6%)	9 (9.6%)	0.692‡	
Academic lecture	14 (9.2%)	2 (14.3%)	7 (15.9%)	5 (5.3%)	0.099‡	
Self-study	6 (3.9%)	0 (0%)	4 (9.1%)	2 (2.1%)	0.111‡	
Other	1 (0.7%)	0 (0%)	0 (0%)	1 (1.1%)	0.737‡	
On-the-job education						
No	123 (33.2%)	29 (50.9%)	41 (34.7%)	53 (27.2%)	0.004‡	a vs. c<0.01§
Yes	237 (64.1%)	27 (47.4%)	74 (62.7%)	136 (69.7%)		
Clinical practice	165 (69.6%)	15 (55.6%)	54 (73.0%)	96 (70.6%)	0.178‡	
Seminar	80 (33.8%)	9 (33.3%)	27 (36.5%)	44 (32.4%)	0.219‡	
Times of seminar	1 [1–6]	1.5 [1–6]	1 [1–5]	1 [1–6]	0.895†	
Self-study	65 (27.4%)	5 (18.5%)	22 (29.7%)	38 (27.9%)	0.454‡	
Other	31 (13.1%)	6 (22.2%)	5 (6.8%)	20 (14.7%)	0.508‡	

median [range], N (%), †: Kruskal–Wallis test, ‡: χ^2-test/Fisher's exact test, §: *post-hoc* test by Bonferroni; a, ART clinics; b, Gynecology and obstetrics clinics/hospitals; c, General hospitals.

Table 4 Attitude toward bereavement care

	Total (n = 370)	ART clinics (n = 57)[a]	Gynecology and obstetrics clinics/hospitals (n = 118)[b]	General hospitals (n = 195)[c]	*P*-value	Multiple comparisons
Willingness to provide bereavement care						
Strongly agree	161 (43.5%)	15 (26.3%)	54 (45.8%)	92 (47.2%)	0.056†	
Moderately agree	132 (35.7%)	27 (47.4%)	47 (39.8%)	58 (29.7%)		
Moderately disagree	58 (15.7%)	9 (15.8%)	14 (11.9%)	35 (17.9%)		
Strongly disagree	9 (2.4%)	1 (1.8%)	2 (1.7%)	6 (3.1%)		
Bereavement care is effective for wives						
Strongly agree	294 (79.5%)	41 (71.9%)	93 (78.8%)	160 (82.1%)	0.500†	
Moderately agree	72 (19.5%)	14 (24.6%)	25 (21.2%)	33 (16.9%)		
Moderately disagree	1 (0.3%)	0 (0%)	0 (0%)	1 (0.5%)		
Strongly disagree	0 (0%)	0 (0%)	0 (0%)	0 (0%)		
Bereavement care is effective for husband						
Strongly agree	258 (69.7%)	38 (66.7%)	78 (66.1%)	142 (72.8%)	0.427‡	
Moderately agree	101 (27.3%)	17 (29.8%)	39 (33.1%)	45 (23.1%)		
Moderately disagree	7 (1.9%)	1 (1.8%)	1 (0.8%)	5 (2.6%)		
Strongly disagree	1 (0.3%)	0 (0%)	0 (0%)	1 (0.5%)		
Bereavement care is effective for self						
Strongly agree	125 (33.8%)	17 (29.8%)	41 (34.7%)	67 (34.4%)	0.344†	
Moderately agree	143 (38.6%)	27 (47.4%)	43 (36.4%)	73 (37.4%)		
Moderately disagree	80 (21.6%)	11 (19.3%)	30 (25.4%)	39 (20.0%)		
Strongly disagree	18 (4.9%)	1 (1.8%)	3 (2.5%)	14 (7.2%)		
Timing of bereavement care						
From the 1st stillbirth	292 (78.9%)	37 (64.9%)	93 (78.8%)	162 (83.1%)	0.038†	a vs. c < 0.01§
From the 1st miscarriage	241 (65.1%)	36 (63.2%)	68 (57.6%)	137 (70.3%)	0.125†	
From the 2nd miscarriage	11 (3.0%)	2 (3.5%)	4 (3.4%)	5 (2.6%)	0.759†	
From the 3rd miscarriage	2 (0.5%)	0 (0%)	0 (0%)	2 (1.0%)	0.660†	

median [range], N (%), †: Kruskal–Wallis test, ‡: χ^2-test/Fisher's exact test, §: *post-hoc* test by Bonferroni; a, ART clinics; b, Gynecology and obstetrics clinics/hospitals; c, General hospitals.

bereavement care compared to the nurses ($p = 0.000$), and the respondents who had received on-the-job education had significantly higher bereavement care scores ($p = 0.000$).

The respondents who worked in both inpatient and outpatient departments or in only inpatient departments had a more positive attitude toward bereavement care compared to those who worked only in outpatient settings ($p = 0.012$). Those working in a general hospital showed a positive association with attitude ($p = 0.043$). The respondents with midwifery licenses were more willing to provide bereavement care compared to those with nursing licenses ($p = 0.000$). The respondents who scored ≥ 9 points in bereavement care knowledge had a better attitude toward bereavement care, and on-the-job education experience was positively related to the attitude toward bereavement care (both $p = 0.000$).

Discussion

Our survey obtained useful baseline data about the knowledge and attitudes of nursing staff toward bereavement care for couples with miscarriage or stillbirth experiences.

The respondents' pregnancy loss and bereavement care knowledge. Compared to other investigations, our present study revealed a better knowledge of miscarriage [14, 25]. A Flemish study showed that only 76% of respondents could define miscarriage correctly, which was lower than our study's rate of 93.8% [14]. In addition, our study's awareness rate for the frequency of miscarriage (77.6%) was far higher than those of studies conducted in both a general population (28%) and university students (20%) [25, 26]. The differences in rates may be attributed to the diverse cultural and educational backgrounds of the respondents.

However, the responses to our survey also demonstrated that deficiencies in the respondents' understanding of RPL and follow-up bereavement care remain, which is similar to other studies conducted among obstetrician-gynecologists and general population [27, 28]. This may be due to the lack of recognition and support for miscarriage/stillbirth in the sociocultural environment [29].

Table 5 Variation factors associated with knowledge and attitudes

		Knowledge of pregnancy loss			Knowledge of bereavement care			Willingness to provide bereavement care		
		Insufficient (<5)	Sufficient (≥5)	*P*-value	Insufficient (<9)	Sufficient (≥9)	*P*-value	Yes	No	*P*-value
Children	Yes (n=170)	40 (23.5%)	130 (76.5%)	0.000†	64 (37.6%)	106 (62.4%)	0.108†	75 (45.5%)	90 (54.5%)	0.582†
	No (n=74)	36 (48.6%)	38 (51.4%)		36 (48.6%)	38 (51.4%)		36 (49.3%)	37 (50.7%)	
Age	<30[a] (n=56)	30 (53.6%)	26 (46.4%)	0.002†	28 (50.0%)	28 (50.0%)	0.212†	27 (49.1%)	28 (50.9%)	0.709†
	30–39[b] (n=57)	16 (28.1%)	41 (71.9%)	a vs. b, a vs. c, a vs. d<0.01§	28 (49.1%)	29 (50.9%)		25 (44.6%)	31 (55.4%)	
	40–49[c] (n=83)	20 (24.1%)	63 (75.9%)		30 (36.1%)	53 (63.9%)		32 (39.5%)	49 (60.5%)	
	≥50[d] (n=70)	22 (31.4%)	48 (68.6%)		26 (37.1%)	44 (62.9%)		32 (46.4%)	37 (53.6%)	
Marital status	Single[a] (n=91)	42 (46.2%)	49 (53.8%)	0.012†, a vs. b<0.01§	43 (47.3%)	48 (52.7%)	0.284†	36 (39.6%)	55 (60.4%)	0.483†
	Married[b] (n=248)	73 (29.4%)	175 (70.6%)		99 (39.9%)	149 (60.1%)		114 (46.9%)	129 (53.1%)	
	Divorce or Widowed[c] (n=29)	12 (41.4%)	17 (58.6%)		15 (51.7%)	14 (48.3%)		11 (45.8%)	13 (54.2%)	
Education background	Nursing school (n=241)	80 (33.2%)	161 (66.8%)	0.465†	105 (43.6%)	136 (56.4%)	0.629†	107 (46.1%)	125 (53.9%)	0.424†
	University and above (n=127)	47 (37.0%)	80 (63.0%)		52 (40.9%)	75 (59.1%)		53 (41.7%)	74 (58.3%)	
Workplace	ART clinics[a] (n=57)	13 (22.8%)	44 (77.2%)	0.002†, a vs. c, b vs. c<0.01§	26 (45.6%)	31 (54.4%)	0.474†	15 (28.8%)	37 (71.2%)	0.043†, a vs. c<0.01§
	Gynecology and obstetrics clinics/hospitals[b] (n=118)	31 (26.3%)	87 (73.7%)		45 (38.1%)	73 (61.9%)		54 (46.2%)	63 (53.8%)	
	General hospitals[c] (n=195)	83 (42.6%)	112 (57.4%)		87 (44.6%)	108 (55.4%)		92 (48.2%)	99 (51.8%)	
Work setting	Outpatient[a] (n=69)	18 (26.1%)	51 (73.9%)	0.001†, a vs. b, b vs. c<0.01§	35 (50.7%)	34 (49.3%)	0.279†	18 (28.1%)	46 (71.9%)	0.012†, a vs. b, a vs. c<0.01§
	Inpatient[b] (n=69)	55 (47.0%)	62 (53.0%)		50 (42.7%)	67 (57.3%)		53 (46.5%)	61 (53.5%)	
	Both[c] (n=182)	52 (28.6%)	130 (71.4%)		72 (39.6%)	110 (60.4%)		89 (49.4%)	91 (50.6%)	
Work years	<5[a] (n=140)	60 (42.9%)	80 (57.1%)	0.009†, a va. c<0.01§	64 (45.7%)	76 (54.3%)	0.360†	62 (45.3%)	75 (54.7%)	0.066†
	5–15[b] (n=130)	42 (32.3%)	88 (67.7%)		56 (43.1%)	74 (56.9%)		47 (37.9%)	77(62.1%)	
	≥16[c] (n=96)	23 (24.0%)	73 (76.0%)		35 (36.5%)	61 (63.5%)		51 (53.7%)	44 (46.3%)	
Work hours/week	<20 (n=11)	4 (36.4%)	7 (63.6%)	0.986†	7 (63.6%)	4 (36.4%)	0.233†	5 (45.5%)	6 (54.5%)	0.950†
	20–39 (n=55)	19 (34.5%)	36 (65.5%)		20 (36.4%)	35 (63.6%)		26 (47.3%)	29 (52.7%)	
	≥40 (n=272)	97 (35.7%)	175 (64.3%)		118 (43.4%)	154 (56.6%)		119 (44.9%)	146 (55.1%)	
Midwifery licenses	Yes (n=266)	88 (33.1%)	178 (66.9%)	0.421†	94 (35.3%)	172 (64.7%)	0.000†	137 (52.3%)	125 (47.7%)	0.000†
	No (n=104)	39 (37.5%)	65 (62.5%)		64 (61.5%)	40 (38.5%)		24 (24.5%)	74 (75.5%)	
School education	Yes (n=152)	50 (32.9%)	102 (67.1%)	0.781†	59 (38.8%)	93 (61.2%)	0.247†	74 (49.0%)	77 (51.0%)	0.174†
	No (n=207)	71 (34.3%)	136 (65.7%)		93 (44.9%)	114 (55.1%)		83 (41.7%)	116 (58.3%)	
On-the-job education	Yes (n=237)	69 (29.1%)	168 (70.9%)	0.012†	69 (29.1%)	168 (70.9%)	0.000†	124 (53.2%)	109 (46.8%)	0.000†
	No (n=123)	52 (42.3%)	71 (57.7%)		84 (68.3%)	39 (31.7%)		34 (29.1%)	83 (70.9%)	
Childbirth	Yes (n=236)	65 (27.5%)	171 (72.5%)	0.000†	93 (39.4%)	143 (60.6%)	0.084†	107 (46.9%)	121 (53.1%)	0.305†
	No (n=127)	59 (46.5%)	68 (53.5%)		62 (48.8%)	65 (51.2%)		52 (41.3%)	74 (58.7%)	
Miscarriage/stillbirth	Yes (n=82)	19 (23.2%)	63 (76.8%)	0.017†	28 (34.1%)	54 (65.9%)	0.075†	42 (53.8%)	36 (46.2%)	0.073†
	No (n=281)	105 (37.4%)	176 (62.6%)		127 (45.2%)	154 (54.8%)		117 (42.4%)	159 (57.6%)	
Infertility treatment	Yes (n=56)	11 (19.6%)	45 (80.4%)	0.013†	24 (42.9%)	32 (57.1%)	0.974†	28 (50.9%)	27 (49.1%)	0.339†
	No (n=305)	112 (36.7%)	193 (63.3%)		130 (42.6%)	175 (57.4%)		130 (43.9%)	166 (56.1%)	
Recurrent pregnancy loss treatment	Yes (n=9)	1 (11.1%)	8 (88.9%)	0.263†	2 (22.2%)	7 (77.8%)	0.361†	5 (62.5%)	3 (37.5%)	0.512†
	No (n=331)	115 (34.7%)	216 (65.3%)		143 (43.2%)	188 (56.8%)		143 (44.4%)	179 (55.6%)	
Knowledge of pregnancy loss	<5 (n=127)	–	–	–	–	–	–	47 (37.6%)	78 (62.4%)	0.058†
	≥5 (n=243)	–	–		–	–		114 (48.5%)	121 (51.5%)	
Knowledge of bereavement care	<9 (n=158)	–	–	–	–	–	–	43 (28.3%)	109 (71.7%)	0.000†
	≥9 (n=212)	–	–		–	–		118 (56.7%)	90 (43.3%)	

median [range], N (%), †: χ^2-test/Fisher's exact test, §: *post-hoc* test by Bonferroni test; a, b, c, d: Different demographic background groups.

The respondents' bereavement care education. The finding about bereavement care education is similar to previous research that showed that training and education in this area were inadequate, thus creating a knowledge gap [21,22]. In another investigation, only 28% of nurses reported that bereavement care was included in their regular educational program, and this rate is notably lower than that indicated by the present survey (41.1%) [30]. This may be due to the policies of different countries and the importance attached to miscarriage/stillbirth. Our present findings also revealed that the rates of both schooling and on-the-job educational experiences were significantly lower in the nursing staff at the ART clinics than in the general hospitals, which may have occurred because the number of nursing staff with midwifery licenses and university degrees at ART clinics was significantly lower than the numbers at the general hospitals, which could lead to a lower level of accessibility for the relevant education.

Factors associated with knowledge. Subjectively, being married, being over 30 years old with more work experience, as well as having experienced a pregnancy loss or childbirth can facilitate obtaining more relevant information from health professionals and contribute to a higher level of knowledge regarding pregnancy loss. The reason why nursing staff working in general hospitals have significantly lower knowledge scores about pregnancy loss may be because nursing staff in general hospitals had less exposure to women with miscarriage experiences, which may have resulted in less relevant knowledge. Moreover, in Japan, miscarriage cases are typically handled in outpatient departments, and nurses who only work in inpatient departments often have limited opportunities to encounter such cases. As a result, they may lack relevant knowledge.

Another factor associated with knowledge of bereavement care in the present study is the possession of a midwifery license. This could be related to the efforts in Japan to include bereavement care education in midwifery training programs, as well as the provision of a series of on-the-job education projects. These initiatives have likely contributed to the increased knowledge of bereavement care among midwives [31]. Another reason may be the staff's educational background. A larger proportion of the midwives in this study had received a university or higher degree, which may have provided them with more educational opportunities to gain relevant knowledge.

Our respondents' replies indicate that the provision of on-the-job education can effectively increase one's knowledge of both pregnancy loss and bereavement care, and this finding is consistent with previous studies [14,32]. This result may have occurred because targeted education and training facilitate the transfer of and access to information for nursing staff [16,33].

Attitude toward bereavement care. Most of the present respondents had positive attitudes toward providing bereavement care, believing it was effective for couples with miscarriage/stillbirth as well as for themselves, and this finding is consistent with earlier reports [6,24]. This may be because providing bereavement care is generally considered a valuable aspect of midwives' work in Japan, seen as a way to demonstrate respect to the mother and baby [33].

Factors associated with attitude. The survey results indicated that work-related factors are correlated with the willingness to provide bereavement care; this finding is also consistent with prior studies [19,34]. Working in both outpatient and inpatient settings or only in an inpatient setting may provide more opportunities to be in contact with parents who come to an outpatient department to see a physician or stay in the hospital due to stillbirth or miscarriage. Nurses working in both outpatient and inpatient settings or only in an outpatient setting may experience the parents' grief more deeply, and they may thus be more willing to provide relevant care. In comparison to the ART clinics, the nursing staff working in general hospitals seemed more willing to provide bereavement care, perhaps due to the different types of patients being treated and the job responsibilities required by the hospitals.

Other important factors influencing the respondents' attitudes were educational background and resources. This may be because nursing staff with more work experience and educational experience are more knowledgeable about women's suffering and are more able to acknowledge couples' pain and loss. Bereavement care is very emotionally demanding and complex, requiring a significant amount of expertise and communication skills; when they gain sufficient knowledge and skills, nursing staff can be confident in their support of parents who are coping with a stillbirth or miscarriage [15,35].

We speculated that the reason why the midwives appear to be more willing than the nurses to provide bereavement care may be due to their role as the pri-

mary witnesses throughout the birthing process and their responsibility for the discharge of the parent and infant. This makes it easier for them to establish a deeper connection with the mother and child [36]. The midwives who responded to our survey also had greater knowledge and more educational experiences and were thus more confident in providing appropriate care.

Our findings indicate that education has a significant impact on both the knowledge and the attitudes of the nursing staff. Education addressing pregnancy loss and bereavement care should be integrated into the formal nursing curriculum, clinical placements, and academic discussions. Guidance from experienced nursing staff has been recommended [37]. Innovative learning methods such as classroom theory sessions, reflective exercises, debriefings, group work, and seminars should be utilized [38, 39]. Training programs should specifically focus on RPL, follow-up support for couples, and similar relevant topics.

Our study has several limitations. The convenience sampling approach might have led to potentially biased estimates. Representatives of most institution leaders who agreed to cooperate may have been interested in this topic, potentially introducing a response bias. The study was conducted at medical institutions in the Chugoku and Shikoku regions of Japan, it may potentially impact the generalizability of the findings. The use of only quantitative data means that causal relationships cannot be inferred. In addition, while this study identified some factors that could be used to predict the knowledge of and attitude toward bereavement care, it is difficult to identify additional factors that may be unique to this particular care and population. Lastly, some measures tended to be subjective as the surveys were self-completed. Future research should test these findings on a large scale across multiple centers. Qualitative studies are also desirable, to broaden our understanding of bereavement care and design possible interventions.

In conclusion, the results of this study highlight the insufficient knowledge about RPL and follow-up bereavement care among nursing staff in Japanese institutions. Our findings emphasize the limitations surrounding the availability of educational and training resources in this context. Despite these challenges, the overall attitude of nursing staff toward providing bereavement care for couples with miscarriage/stillbirth is positive. Our results also indicate that variables of demographics, occupation, education, and gestation are associated with nursing staff's knowledge and attitudes. It is crucial to provide comprehensive training and support to early career members of nursing staff without midwifery licenses in order to enable them to deliver effective bereavement care.

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References

1. Quenby S, Gallos ID, Dhillon-Smith RK, Podesek M, Stephenson MD, Fisher J, Brosens J, J Brewin J, Ramhorst R, Lucas ES, McCoy RC, Anderson R, Daher S, Regan L, Al-Memar M, Bourne T, MacIntyre DA, Rai R, Christiansen OB, Sugiura-Ogasawara M, Odendaal J, J Devall A, R Bennett P, Petrou S and Coomarasamy A: Miscarriage matters: the epidemiological, physical, psychological, and economic costs of early pregnancy loss. Lancet (2021) 397: 1658–1667.
2. Ministry of Health, Labour and Welfare: Overview of the monthly report of population dynamic statistics in Reiwa 3 years: 2021.
3. Lawn JE, Blencowe H, Waiswa P, Amouzou A, Mathers C, Hogan D, Flenady V, Frøen JF, Qureshi ZU, Calderwood C, Shiekh S, Jassir FB, You D, McClure EM, Mathai M, Cousens S, Lancet Ending Preventable Stillbirths Series study group and Lancet Stillbirth Epidemiology investigator group: Stillbirths: rates, risk factors, and acceleration towards 2030. Lancet (2016) 387: 587–603.
4. Burden C, Bradley S, Storey C, Ellis A, Heazell AE, Downe S, Cacciatore J and Siassakos D: From grief, guilt pain and stigma to hope and pride – a systematic review and meta-analysis of mixed-method research of the psychosocial impact of stillbirth. BMC Pregnancy Childbirth (2016) 16: 9.
5. Farren J, Jalmbrant M, Ameye L, Joash K, Mitchell-Jones N, Tapp S, Timmerman D and Bourne T: Post-traumatic stress, anxiety and depression following miscarriage or ectopic pregnancy: a prospective cohort study. BMJ Open (2016) 6: e011864.
6. Ellis A, Chebsey C, Storey C, Bradley S, Jackson S, Flenady V, Heazell A and Siassakos D: Systematic review to understand and improve care after stillbirth: a review of parents' and healthcare professionals' experiences. BMC Pregnancy Childbirth (2016) 16: 16.
7. Brierley-Jones L, Crawley R, Lomax S and Ayers S: Stillbirth and stigma: the spoiling and repair of multiple social identities. Omega (Westport) (2014) 70: 143–168.
8. Hogue CJ, Parker CB, Willinger M, Temple JR, Bann CM, Silver RM, Dudley DJ, Moore JL, Coustan DR, Stoll BJ, Reddy UM, Varner MW, Saade GR, Conway D, Goldenberg RL and Eunice Kennedy Shriver National Institute of Child Health and Human Development Stillbirth Collaborative Research Network Writing Group: The association of stillbirth with depressive symptoms 6–36 months post-delivery. Paediatr Perinat Epidemiol (2015) 29: 131–143.
9. Cacciatore J, Lacasse JR, Lietz CA and McPherson J: A parent's tears: primary results from the traumatic experiences and resiliency study. Omega (Westport) (2013) 68: 183–205.

10. Boyle FM, Horey D, Dean JH, Loughnan S, Ludski K, Mead J, Homer CS, de Wilde D, Morris J and Flenady VJ: Stillbirth in Australia 5: making respectful care after stillbirth a reality: the quest for parent-centered care. Women Birth (2020) 33: 531–536.
11. Shakespeare C, Merriel A, Bakhbakhi D, Blencowe H, Boyle FM, Flenady V, Gold K, Horey D, Lynch M, Mills TA, Murphy MM, Storey C, Toolan M, Siassakos D and RESPECT (Research of Evidence based Stillbirth care Principles to Establish global Consensus on respectful Treatment) working group: The RESPECT Study for consensus on global bereavement care after stillbirth. Int J Gynaecol Obstet (2020) 149: 137–147.
12. Kato M, Siina Y, Saito R, Yahagi T and Nagase T: The creating a clinical pathway of "Baby Grief Care". Journal of Japanese Society for Clinical Pathway (2019) 21: 139–143.
13. Johnson OP and Langford RW: A Randomized Trial of a Bereavement Intervention for Pregnancy Loss. J Obstet Gynecol Neonatal Nurs (2015) 44: 492–499.
14. De Roose M, Tency I, Beeckman D, Van Hecke A, Verhaeghe S and Clays E: Knowledge, attitude, and practices regarding miscarriage: A cross-sectional study among Flemish midwives. Midwifery (2018) 56: 44–52.
15. Doherty J, Cullen S, Casey B, McMahon A, Brosnan M, Sheehy L, Lloyd B, Barry T and Coughlan B: I'm afraid of upsetting them further": Student midwives educational needs in relation to bereavement in the maternity setting. BMC Preg Childbirth (2017) 17.
16. Emond T, de Montigny F and Guillaumie L: Exploring the needs of parents who experience miscarriage in the emergency department: a qualitative study with parents and nurses. J Clin Nurs (2019) 28: 1952–1965.
17. Heazell AE, McLaughlin MJ, Schmidt EB, Cox P, Flenady V, Khong TY and Downe S: A difficult conversation? The views and experiences of parents and professionals on the consent process for perinatal postmortem after stillbirth. BJOG (2012) 119: 987–997.
18. Ravaldi C, Levi M, Angeli E, Romeo G, Biffino M, Bonaiuti R and Vannacci A: Stillbirth and perinatal care: Are professionals trained to address parents' needs? Midwifery (2018) 64: 53–59.
19. Chan MF, Lou FL, Arthur DG, Cao FL, Wu LH, Li P, Sagara-Rosemeyer M, Chung LY and Lui L: Investigating factors associate to nurses' attitudes towards perinatal bereavement care. J Clin Nurs (2008) 17: 509–518.
20. Chan MF, Lou FL and Arthur DG: A survey comparing the attitudes toward perinatal bereavement care of nurses from three Asian cities. Eval Health Prof (2010) 33: 514–533.
21. Fernández-Basanta S, Coronado C, Bondas T and Movilla-Fernández MJ: Primary healthcare midwives' experiences of caring for parents who have suffered an involuntary pregnancy loss: a phenomenological hermeneutic study. Midwifery (2021) 92: 102863.
22. Nakatsuka M: Basic knowledge and support points for patients with recurrent pregnancy loss. Clinical midwifery care (2013) 5: 78–82.
23. Nakatsuka M: The background and psychology of women with recurrent pregnancy loss. Clinical midwifery care (2019) 11: 90–92.
24. Kendall MG, Stuart A, Ord JK and O'Hagan A: Kendall's advanced theory of statistics 6th Ed., Edward Arnold Press, London (1994).
25. McCarthy CM, Meaney S, Rice R, Sheehan J and O'Donoghue K: The general populations' understanding of first trimester miscarriage: a cross sectional survey. Eur J Obstet Gynecol Reprod Biol (2020) 254: 200–205.
26. San Lazaro Campillo I, Meaney S, Sheehan J, Rice R and O'Donoghue K: University students' awareness of causes and risk factors of miscarriage: a cross-sectional study. BMC Womens Health (2018) 18: 188.
27. Andersson IM, Gemzell-Danielsson K and Christensson K: Caring for women undergoing second-trimester medical termination of pregnancy. Contraception (2014) 89: 460–465.
28. Power S, Meaney S and O'Donoghue K: An assessment of the general public's knowledge of fatal fetal anomalies. Prenat Diagn (2018) 38: 883–890.
29. Fernández-Basanta S, Coronado C, Bondas T and Movilla-Fernández MJ: Primary healthcare midwives' experiences of caring for parents who have suffered an involuntary pregnancy loss: a phenomenological hermeneutic study. Midwifery (2021) 92: 102863.
30. Robertson MJ, Aldridge A and Curley AE: Provision of bereavement care in neonatal units in the United Kingdom. Pediatr Crit Care Med (2011) 12: e111–e115.
31. Ministry of Health, Labour and Welfare: Basic Nursing Education Study Group Report: 2019.
32. Warland J and Glover P: Talking to pregnant women about stillbirth: Evaluating the effectiveness of an information workshop for midwives using pre and post intervention surveys. Nurse Educ Today (2015) 35: e21–e25.
33. Sheehy A and Baird K: A qualitative study of early career Australian midwives' encounters with perinatal grief, loss and trauma. Women Birth (2022) 35: e539–e548.
34. Chan MF and Arthur DG: Nurses' attitudes towards perinatal bereavement care. J Adv Nurs (2009) 65: 2532–2541.
35. Kalu FA, Larkin P and Coughlan B: Development, validation and reliability testing of 'Perinatal Bereavement Care Confidence Scale (PBCCS)'. Women Birth (2020) 33: e311–e319.
36. Ravaldi C, Carelli E, Frontini A, Mosconi L, Tagliavini S, Cossu E, Crescioli G, Lombardi N, Bonaiuti R, Bettiol A, Facchinetti F and Vannacci A: The BLOSSoM study: Burnout after perinatal LOSS in Midwifery. Results of a nation-wide investigation in Italy. Women Birth (2022) 35: 48–58.
37. Beaudoin MA and Ouellet N: An exploration of factors influencing nursing practice with families experiencing perinatal loss. Rech Soins Infirm (2018) 133: 58–69.
38. Agwu Kalu F, Coughlan B and Larkin P: A mixed methods sequential explanatory study of the psychosocial factors that impact on midwives' confidence to provide bereavement support to parents who have experienced a perinatal loss. Midwifery (2018) 64: 69–76.
39. Willis P: Nurses' Perspective on Caring for Women Experiencing Perinatal Loss. MCN Am J Matern Child Nurs (2019) 44: 46–51.