実践報告

産後1か月時に産後うつスクリーニング陽性である
日本人高年初産婦の母親としての経験：ケーススタディ

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目的：日本では高年初産婦が珍しくなくなってきているが，これらの女性は産後うつに対して脆弱であることが示唆されている。本研究の目的は，産後1か月時に産後うつスクリーニング陽性である日本人高年初産婦の母親としての経験を記述することである。

方法：本研究はケーススタディであり，2011年の6月から12月の期間に3つの病院で健康な単胎児を出産した21人の高年初産婦を対象とした。質的データと量的データを収集し，量的データはうつのハイリスク女性を抽出し，さらに質的データの補完的解釈に用いた。量的データとしては，1）アクティグラフを用いて測定した客観的睡眠の質と，2）日本語版エジンバラ産後うつ病自己調査票（EPDS）により測定したうつ症状の，2つのデータを収集した。日本語版EPDSで9点以上の得点者を，うつのハイリスク女性とした。うつのハイリスク女性の母親としての経験に関しては，半構成的面接によりデータ収集し，質的に分析した。ナラティブ統合により，個々の女性の文脈の中で質的データと量的データを解釈した。

結果：うつのハイリスク女性は5名であった。本研究の結果から，高年初産婦の経験を理解するために重要な以下のテーマが抽出された。1）身体的健康状態の維持，2）子どもの世話：実践，気がかり，対処，3）ソーシャルサポートの利用，4）基本的ニーズの充足，5）新しい生活への適応。

考察：母親個々の状況の中での母親としての経験を理解することが，適切なケア提供につながると考えられる。

Ⅰ．INTRODUCTION

Advanced maternal age has become more common in modern Japan. Between 2006 to 2014, the birth rate of Japanese primiparae aged 35 years and over rose from 5.6% to 9.9%[1,2]. Post-partum women with advanced maternal age, particularly primiparae, have been shown to be more vulnerable to post-partum depression（PPD）[3,4]. A previous study with a Japanese population reported that the prevalence of PPD was higher at 1 month post-partum than at other times across post-partum periods[5]. The first month post-partum also represents the worst sleep quality[6] during the early months post-partum because of high need infants, which has been associated with PPD[7]. Additional factors also have been indicated to influence PPD. These include a history of mental disorders, unemployment, social support, marital relationship, unplanned pregnancy, non-breastfeeding, stressful life events, and vulnerable personality[8]. In a real-life context, these risk factors may be understood in an individual woman's complex situation. However, there has been little research aimed at understanding maternal experiences of older Japanese primiparae, especially focusing on women at high risk for depression at 1-month post-partum.

Ⅱ．METHODS

Aims

This study aimed to describe maternal experiences of older Japanese primiparae at high risk for depression at 1-month post-partum. It was part of a longitudinal study using mixed methods during the first 16 weeks post-partum to examine associations between maternal role attainment and physical and psychosocial well-being in Japanese primiparae aged 35 years and over.

Design

We used a case study research design[9] which is suitable to complex situations where the phenomenon of interest is highly contextualized. To acquire a thorough understanding of cases, we used qualitative and quantitative data, with quantitative data for selecting women at high risk for depression as complementary to qualitative data. In the present study, we defined "case" as a post-partum woman aged 35 years or over with a positive screen for depression living in an urban area of Japan.

Participants

A convenience sample of 27 women was approached at three obstetric wards in urban Japanese hospitals from June to December 2011. Out of these, 22 women agreed to participate, and one woman dropped out before 1 month post-partum due to child-rearing distress. Therefore, data of 21 women were used in this study. Inclusion criteria were: Japanese primiparae aged 35 years and over who had delivered a single, healthy infant vaginally or operatively, were 0–4 days post-partum, and had no health complications that prevented mother/child rooming in.

Data collection

Quantitative data

Quantitative data included: 1) depressive symptoms and 2) objective sleep quality. Additionally, participants' demographic and clinical characteristics were collected using a questionnaire that included age, education level, employment status, perceived financial burden, years married, type of delivery, infertility treatment, infant gender, infant birth weight, and feeding method.

1. Depressive symptoms

Depressive symptoms were measured using the Edinburgh Postnatal Depression Scale (EPDS)[10]. The EPDS was used to select women at high risk for depression for further qualitative analysis. The EPDS consists of 10 items rated on a 4-point Likert scale from 0 to 3 with the total score from 0 to 30. For Japanese post-partum women, a cut-off point of 9 or more indicates a positive screen for depression[11].

2. Objective sleep quality

Out of multiple factors that may influence PPD, we selected objective sleep quality because it is one of the symptoms of PPD[11] and has been shown to be the most deteriorated during the early months post-partum[6]. Objective sleep quality was measured using the Micro Sleep Watch Actigraph device (Ambulatory Monitoring, Inc.,

Ardsley, NY, USA). Actigraphy is valid and reliable for assessing sleep-wake activity and has been used for over 20 years[12], including in post-partum women. The actigraphy device is continuously worn like a wrist watch on the non-dominant hand for 48 hours and removed only for bathing. In addition to actigraphy, a Diary of Daily Life Activities (paper and pencil instrument) was used during data collection to assist with the interpretation of actigraphy data.

Qualitative data

Qualitative data served as primary data sources, and were collected via semi-structured interviews to describe maternal experiences, including the participants' perception of their physical and psychosocial well-being, maternal role attainment, and experiences in daily life. Maternal experiences were evoked by asking: "Do you have any concerns about your physical well-being?" "What do you think about yourself as a mother?" "Do you think that you have sufficient time for activities in your daily life, such as having meals and taking a shower?"

A questionnaire package and an actigraphy device were mailed to the participants' homes a few days before the 1 month post-partum date. Participants were asked to fill out the questionnaires and wear the wrist actigraphy device on their non-dominant wrist continuously for 48 hours. In addition, semi-structured interviews were conducted either at home or at an outpatient clinic at 1 month post-partum that coincided with the mother/child's 1 month check-ups.

Ethical considerations

Potential subjects were initially recruited by head nurses or research nurses at each hospital using a brochure to explain the study. The investigators then met potential participants to explain the details and invite participation. Each participant was given an opportunity for questions as well as time to think before signing a consent form. The study was approved by the ethics committee of the principal investigator before commencement of the study. The work conforms to the provisions of the Declaration of Helsinki.

Data analysis

Quantitative data analysis

Descriptive statistics were calculated for the EPDS and the participants' characteristics. The EPDS served for selecting women at high risk for depression for further qualitative analysis.

For the actigraphy data, the Action-W, Version 2 software (Ambulatory Monitoring Inc., Ardsley, NY, USA)

was used to assess sleep quality by calculating sleep parameters including: Minutes of Sleep (SMIN; total minutes scored as sleep between sleep onset and waking), Sleep Efficiency (SE; percentage of sleep between sleep onset and waking), Sleep Latency (SLAT; total minutes it takes to fall asleep followed by ≥ 19 min of sleep), waking after sleep onset (WASO; minutes of wakefulness that occur between sleep onset and final awakening), and long waking episodes (LWEP; number of episodes of wakefulness ≥ 5 min between sleep onset and waking). For activity sampling, 60 second epochs were set according to the instrument's protocol; the estimation of sleep/wake parameters were computed by the software using the Cole–Kripke algorithm [13].

All 21 participants provided data that included at least two nights of sleep. The sleep data used in the statistical analysis consisted of the mean values of each parameter for two nights of sleep. Statistical analysis was performed using SPSS Statistics 21 (IBM Corp., Armonk, NY, USA).

Qualitative data analysis

For the present study, only women at high risk for depression were included for the qualitative analysis. These women were selected using the EPDS screening. The semi-structured interviews were recorded and all audiotapes were transcribed and analysed inductively using the qualitative thematic analytical method [14]. Our focus was maternal experiences, including women's perception of their physical and psychosocial well-being, maternal role attainment, and experiences in daily life. First, all transcripts were read by the investigators several times to immerse themselves in the data. Second, each transcript was examined line by line and codes were created for meaningful responses. Third, codes were grouped or clustered according to similarities and differences, and sorted into themes. To achieve a deeper understanding of individual cases, the investigators maintained a case focus during the process of analysis. To maintain trustworthiness during data analysis, peer debriefing was used regularly.

Integration of qualitative and quantitative data analysis

Narrative integration [15] was used by interpreting qualitative findings (i.e., themes) and quantitative results in each case's individualized context. We chose this approach rather than theme-by-theme approach (i.e., presenting qualitative and quantitative findings separately) so that maternal experiences could be understood in-depth.

Ⅲ. RESULTS
Participants' characteristics

Demographic and clinical characteristics of the 21 participants are shown in Table 1. In general, the average subject was 37 years old, had been married almost 4 years, required no fertility treatments to become pregnant, had a vaginal delivery, had a vocational or college education, had little or no financial burden, was unemployed, and had a male child who was receiving both breast milk and formula feedings.

Depressive symptoms and objective sleep quality

Descriptive statistics of the EPDS and actigraphic parameters are shown in Table 2. Regarding the EPDS, five (23.8 %) women scored ≥ 9 and were considered at high risk for depression. Descriptive statistics of these five cases are also shown in comparison with those of the total 21 cases.

Maternal experiences of older Japanese primiparae at high risk for depression

Qualitative analysis of five women at high risk for depression revealed the following five themes: 1) maintaining physical well-being; 2) childcare: practice, concern, and coping; 3) utilizing social support; 4) meeting basic needs; and 5) adjustment to a new life. Quantitative data (i.e., depressive symptoms and objective sleep quality) complemented these five themes, and narrative integration revealed maternal experiences at high risk for depression in a real-life context. In the present study, we selected three cases to better conveniently illustrate themes in individualized contexts.

Case A

Case A was in her late 30s. She became pregnant unexpectedly before marriage and delivered a 2700-gram infant by elective Caesarean section (CS). During pregnancy she required treatment for gestational diabetes. She also had a history of anorexia and hospitalization at a psychiatric clinic for one year. After being discharged with her infant, she returned home where she lived with her husband and the infant. Her mother provided practical help for one week. Objective sleep quality and the EPDS score of Case A are shown in Table 2. Regarding the theme "maintaining physical well-being," Case A complained of discomfort at the incision site, stiff shoulders, back pain and stomachache. However, she knew how to cope with those physical problems, such as stretching and using a hot pack. Her blood glucose became

Table 1　Demographic and clinical characteristics of 21 participants（Mean age（SD）= 36.95（2.48），range 35-44 years）

Variable	Cases at high-risk for depression（n = 5）					Total cases（n = 21）	
	Case A	Case B	Case C	Case D	Case E	Mean（SD）/ Frequency	Range or Percent
Duration of marriage in years	0	1	1	1	6	3.74（3.28）	0–12
Birthweight in grams	2700	2900	2900	3000	2300	3052.62（373.75）	2220–3795
Perceived financial burden						1	4.8（%）
Considerable						10	47.6（%）
A little	●	●			●	10	47.6（%）
None			●	●			
Employed		●	●			6	28.6（%）
Education level							
High school					●	4	19.0（%）
Vocational or junior college	●	●		●		7	33.3（%）
College or graduate school			●			10	47.6（%）
Infertility treatment						5	23.8（%）
Infant gender							
Female						7	33.3（%）
Male	●	●	●	●	●	14	66.7（%）
Feeding method							
Breast						3	14.3（%）
Mixed	●	●	●	●	●	18	85.7（%）
Type of delivery							
Vaginal		●	●	●	●	15	71.4（%）
Cesarean	●					6	28.6（%）

Table 2　Descriptive statistics for actigraphic parameters and the EPDS

Variable	Cases at high-risk for depression (n = 5)					Total cases (n = 21)		
	Case A	Case B	Case C	Case D	Case E	M	SD	Range
SMIN (minutes)	231.50	322.00	215.00	339.50	379.50	340.79	80.49	215.00–511.00
SE (%)	80.35	78.94	78.70	76.36	57.30	75.04	8.13	57.30–87.60
SLAT (minutes)	6.00	6.00	5.50	10.50	35.00	9.52	9.49	2.50–39.00
WASO (minutes)	55.00	79.00	51.00	99.00	262.50	107.21	51.84	46.00–262.50
LWEP (events)	3.00	2.50	3.00	3.50	11.00	4.50	1.91	2.5–11
EPDS	10.00	11.00	11.00	10.00	11.00	5.48	3.76	0–11

SMIN=sleep duration in minutes, SE=sleep efficiency, SLAT=sleep latency, WASO= waking after sleep onset, LWEP=long waking episodes, EPDS=the Edinburgh Postnatal Depression Scale

stable after delivery so that she didn't need regular blood glucose self-monitoring. Thus, maintaining her physical well-being was not an issue of importance. Likewise, Case A was able to manage "childcare: practice, concern, and coping" well by 1 month post-partum.

　　My baby cries, but I leave him and I do things till he screams...It's not that I don't care about him, but it's like I can read his cues by his crying.

She perceived her child as easy to take care of and was thankful for him.

　　My baby doesn't cry much, so I feel at ease. He is an easy child. If I hold him and swing him like this, he stops crying and falls asleep. So he is really an easy child.

　　Regarding the theme "utilizing social support," Case A received intense practical support from her mother for one week after leaving the hospital. After that, her husband provided support, such as preparing formula, feeding and bathing the child, changing diapers and doing dishes, which was perceived as very helpful by Case A. She also utilized support from health care professionals.

　　I had a problem with breastfeeding...so I called（an obstetric clinic）and went for consultation because I

worked there once...I asked for help from everyone I could, such as a public health nurse.

Regarding the theme "meeting basic needs," Case A subjectively complained of insufficient sleep. Data of objective sleep quality (i.e., SMIN = 231.50 minutes) also indicated insufficient sleep when compared with the means of all the cases (Table 2). However, a daytime nap supplemented some of her sleep need, so she didn't perceive it as an acute problem. Her meal routines were altered to become irregular after childbirth, and she perceived it as it was. Consequently, the theme "adjustment to a new life" was not an issue, as she stated the following.

> I don't understand why they say they don't have time...I had plenty of time, such as for laundry, so it was not a problem at all.

In summary, Case A scored 10 on the EPDS and thus was considered to be at high risk for depression. She had physical problems such as back pain and gestational diabetes. However, she coped well with those problems to "maintain physical well-being". Likewise, she perceived her child as easy and was able to manage "childcare: practice, concern, and coping" well. She was also good at "utilizing social support" from her mother, husband and health care professionals. Regarding the theme "meeting basic needs", she experienced insufficient sleep both subjectively and objectively. However, she didn't perceive it as a problem because of daytime nap supplementation. Consequently, "adjustment to a new life" was managed well by Case A.

Case B

Case B was in her late 30s with a career as a child-care specialist. She delivered a 2900-gram child vaginally. After leaving the hospital, she stayed at her parents' home with her child (*satogaeri*) for two weeks. She was feeding her child breast milk and formula 8 times per day. She scored 11 on the EPDS (Table 2). Regarding the theme "maintaining physical well-being," Case B complained of back pain, discomfort at the perineal incision, tenovaginitis and frequent urination. However, she perceived them as manageable and thus not a severe problem. Her main concern in the theme "childcare: practice, concern, and coping" was the child's crying. She stated the following.

> When I look at my child, his gestures and facial expressions, I feel happy. But it doesn't always happen. He cries and doesn't sleep, so I don't know what to do.

The child's crying was closely related to the theme "adjustment to a new life." She was shocked because breastfeeding was not what she had expected. She was bewildered by the altered rhythm of life, and experienced anxiety, denial and isolation.

> I sort of had confidence, I mean, I thought I could do it...but then I felt anxious like, "Can I really do this?" Tears fell from my eyes... My parents and husband gave me support, but still I felt anxious...I felt alone with my child, and it made me so sad.

Regarding the theme "meeting basic needs," she perceived sufficient sleep, though data of objective sleep quality (i.e., SMIN = 322.00 minutes) indicated slight insufficiency when compared with the means of all the cases (Table 2). She reported that she had sufficient personal time for meals and showers. Her perception of the theme "utilizing social support" was ambivalent. She received plenty of practical support while she stayed at her parent's home, which she perceived as very helpful. At the same time, she perceived informational support from her parents as negative.

> Let me say that I gave breast milk and formula to my child, and I thought that he was full. But then they said, "It's not enough, you should feed him more." Another example is when they said, "You should give plain water after bathing because he is thirsty"...so I don't know what to do. I really wanted them to say nothing.

She also stated that her advanced age became a barrier to utilizing support.

> At my age, I feel uncomfortable when someone looks down on me and says something. If I were younger... maybe I could follow more readily. But because of my age, I think I cannot follow obediently.

In summary, Case B scored 11 on the EPDS and thus was considered to be at high risk for depression. She had physical problems such as back pain and tenovaginitis. However, she perceived them as manageable for "maintaining physical well-being". Regarding the theme "meeting basic needs", her subjective experience was that her basic needs were met, though objective sleep data indicated slight sleep insufficiency. Her main concern was the child's crying which was indicated in the theme "childcare: practice, concern, and coping". Because of her advanced age, she perceived a barrier in "utilizing social support" and was bewildered by the informational support of her parents. Consequently, she experienced anxiety, denial and isolation in "adjustment to a new life".

Case C

   Case C was in her late 30s. She delivered a 2900-gram child vaginally. She required treatment for gestational diabetes during her pregnancy. After leaving the hospital, she stayed at her parents' home with her child (*satogaeri*). She was feeding her child breast milk and formula every 2–3 hours. Objective sleep quality and the EPDS score of Case C are shown in Table 2. She scored 11 on the EPDS. Regarding the theme "maintaining physical well-being," Case C had stiff shoulders and tenovaginitis. She received treatments for these problems at a clinic, and thus she perceived her physical well-being as tolerable. Her main concern was exhausting childcare, which was described in the theme "adjustment to a new life." She stated that her heart was broken, as follows.

   I didn't expect that childcare was such a nightmare...it wasn't working, so I became depressed...my breastfeeding wasn't going well, my child was crying during the night, so I was really knocked down mentally and physically.

She also talked about the exhausting childcare in relation to her inexperience of childcare and out-of-date information from her mother.

   It was terrible. Everything was new to me, so I didn't even know if I was doing well or not. My mother also didn't know because her own childcare experience was so long ago.

Her perception of exhausting childcare was related to her concern about breastfeeding, which was described in the theme "childcare: practice, concern, and coping."

   My breastfeeding wasn't going well...I wanted to give breast milk to my child, but he resisted and cried quite a lot, so that's asking too much from me.

Fortunately, Case C received effective support from her family for this problem, which was described in the theme "utilizing social support."

   My mother seemed to hear about *oketani* (a breast massage method) from somewhere and recommended it to me...you know, I did nothing but weep all day...so all of my family really worried about me...I couldn't stop crying even during my lunch...so I guess my family knew that I was having a hard time.

Consequently, she received breastfeeding support from a midwife and her breastfeeding went more smoothly. Regarding the theme "meeting basic needs," Case C reported insufficient sleep, and data of objective sleep quality (i.e., SMIN = 215.00 minutes) also indicated insufficient sleep

when compared with the means of all the cases (Table 2). However, her subjective perception of sleep duration was 5–6 hours, and she didn't perceive her sleep as an urgent problem. She reported that she had sufficient time for meals and showers.

   In summary, Case C scored 11 on the EPDS and thus was considered to be at high risk for depression. She had physical problems such as stiff shoulders and tenovaginitis, and received treatments for these problems at a clinic. Therefore, she perceived them as tolerable for "maintaining physical well-being". Regarding the theme "meeting basic needs", she had insufficient sleep both subjectively and objectively. However, she didn't perceive it as a problem. Her main concern was the exhausting childcare in "adjustment to a new life", which was closely related to her practice of breastfeeding in "childcare: practice, concern, and coping." Her heart was broken for a while. However, she received effective support from her family and health care professionals. Consequently, Case C seemed to be moving forward by "utilizing social support."

Ⅳ. DISCUSSION
Maternal experiences of older Japanese primiparae at high risk for depression at 1 month post-partum

   Qualitative analysis of five women at high risk for depression revealed the following five themes: 1) maintaining physical well-being; 2) childcare: practice, concern, and coping; 3) utilizing social support; 4) meeting basic needs; and 5) adjustment to a new life. Quantitative data complemented these five themes and helped better understand maternal experiences.

Theme 1. Maintaining physical well-being

   The first month after childbirth is the period when a woman's body is returning to its pre-pregnancy state. In the present study, several physiologic changes were observed in five women at high risk for depression. These included discomfort at incision, stiff shoulders, back pain, stomachache, tenovaginitis, and frequent urination. Management of gestational diabetes was also observed in two women. Despite these physiologic changes, Case A, B, and C perceived them as manageable by seeking and receiving treatments. Thus, maintaining their physical well-being was something that the women needed to deal with, but fortunately, did not seem to be a major issue.

Previous studies have reported associations between physical problems and PPD [16]. It is likely that women feel more distressed if maintaining their physical well-being requires more time and energy, especially when they are taking on the new experience of childcare. This suggests that assessment of women's perception of their physical well-being is important to promote their physiologic adaptation, which may lead to the women's psychosocial well-being.

Theme 2. Childcare: practice, concern, and coping

Childcare was a new experience for all mothers in the present study, and the women's perceptions about their childcare varied. Case A perceived her child as easy to care for, but this didn't happen to Case B or Case C because of concerns about crying and breastfeeding, respectively. A previous study reported that more severe breastfeeding problems correlated with a more depressed symptomatology [17]. Likewise, perceived difficulty in childcare has been reported to influence women's well-being, such that a more difficult child correlates with more fatigue [17]. Also, both the primiparity and advanced age of the participants seemed to contribute to these, as observed in Case C. Given that most women receive 1 month post-partum check-ups, healthcare providers could use this opportunity to assess women's concerns about childcare. This will be especially effective for older primiparas. For example, if a woman verbalizes difficulty with breastfeeding, nurses could observe her breastfeeding practice directly and provide appropriate feedback. Providing knowledge of infants' growth and development also might reduce women's fears and facilitate positive expectations.

Theme 3. Utilizing social support

Social support was identified as a factor that influenced maternal well-being in women at high risk for depression in the present study, which has been reported as a consistent predictor of PPD in previous studies [8]. An interesting finding of the present study is that older primiparae had special concerns in utilizing social support. As shown in Case B, one should not consider that women are receiving satisfying support just because they live with their parents during *satogaeri*. Because their parents are also of an advanced age, their lack of recent childrearing knowledge sometimes becomes a stressor for new mothers. This indicates that social support may not always be perceived as positive. Another concern identified in the present study was barriers to utilizing social support. As shown in Case B, her advanced age or pride was a barrier to help-seeking behaviour. These findings suggest that perceived social support and satisfaction with that support need to be carefully assessed to provide individualized care appropriate to older primiparae.

Theme 4. Meeting basic needs

Sleep or rest is an important basic need for humans. However, sleep patterns are usually disrupted after childbirth in response to high needs infants. Sleep disruptions, including sleep fragmentation and persistent sleep disruption, have been reported to correlate with post-partum women's well-being through fatigue and depression [7,18]. In the present study, Case A and Case C verbalized insufficient sleep, which was consistent with their objective data; yet it didn't cause considerable distress and they did not perceive their sleep as a problem. This suggests a need to differentiate objective sleep quality from subjective sleep quality in considering post-partum women's well-being. A previous study, which measured both objective and subjective sleep quality at two weeks post-partum, reported an association between subjective sleep quality with depressive symptomatology [19]. It will be important for healthcare providers to know that "individuals differ in their subjective experiences" [19] (p. 537) of sleep, especially during the early post-partum period.

Theme 5. Adjustment to a new life

This theme was seen in how well the women integrated their newborn infant into the existing family system. In the present study, Case A was observed to be well adjusted to her new life. However, Case B and Case C were observed as having much more difficulty than Case A. For Case B and Case C, ineffective breastfeeding and the child's crying caused enormous distress, and this led to Case B's perception of anxiety, denial, and isolation. Conflicting advice from others also worked negatively, though she perceived practical support as very helpful most of the time. Similar to Case B, Case C also perceived childcare as exhausting; however, she utilized support more effectively. Therefore, Case C was observed to be moving forward for better adjustment.

"Adjustment to a new life" was understood in a highly individualized context. The remaining four themes incorporated potential factors that might influence women's well-being. A consideration from our findings is that one woman (Case A) had a history of mental disorder, which has been reported as a strong predictor of PPD [8]. This suggests a need for careful assessment of Case A, though she was observed to be well adjusted to her new life at the time of the interview.

A significant implication is that a single factor alone rarely explains maternal experiences during the early post-partum period. As observed in cases in the present study, multiple factors, including childcare and social support, seemed to work negatively or positively in relation with mental health in post-partum women. Careful assessment of maternal experiences will lead to providing appropriate care for better adjustment to a new life.

Limitations

The findings of the present study should be interpreted with caution because of a small sample size. Moreover, six women who were approached were excluded from the original sample. These women might have experienced more depressive symptoms than those in the final sample. That is, our study sample was not fully representative of Japanese mothers. Larger samples may increase the chance of revealing more themes regarding maternal experiences at high risk for depression.

Another limitation is that we analysed only nocturnal sleeping as objective sleep data (i.e., actigraphy data). In early post-partum period, sleep supplementation through daytime naps is expected for many women. Because our analysis of actigraphy data did not cover 24-hour activity, we complemented the analysis with the participants' subjective perceptions of sleep.

V. CONCLUSION

A case study approach could provide rich descriptions regarding maternal experiences in women at high risk for depression within their real-world context. Our findings support the importance of understanding older primiparae's experiences of: 1) maintaining physical well-being; 2) childcare: practice, concern, and coping; 3) utilizing social support; 4) meeting basic needs; and 5) adjustment to a new life. Understanding maternal experiences in each individualized context will lead to providing appropriate care.

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DISCLOSURE

The authors declare no conflict of interest.

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MATERNAL EXPERIENCES AT 1 MONTH POST-PARTUM IN OLDER JAPANESE PRIMIPARAE WITH A POSITIVE SCREEN FOR DEPRESSION: A CASE STUDY

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Purpose: Older primiparae have become more common in Japan. It has been suggested these women are vulnerable to post-partum depression. The present study aimed to describe maternal experiences of older Japanese primiparae with a positive screen for depression at 1 month post-partum.

Methods: This case study examined 21 older primiparae who delivered healthy singletons at three Japanese hospitals from June to December 2011. We used qualitative and quantitative data, with quantitative data for selecting women at high risk for depression as complementary to qualitative data. Quantitative data included: 1) objective sleep quality measured by actigraphy and 2) depressive symptoms measured by the Japanese version of the Edinburgh Postnatal Depression Scale （EPDS）. Women who scored 9 or more on the EPDS were considered to be at high risk for depression. Semi-structured interviews were conducted to explore maternal experiences of women at high risk for depression and analysed qualitatively. Narrative integration was used by interpreting qualitative and quantitative findings in each woman's individualized context.

Results: Five women were at high risk for depression. Our findings support the importance of understanding older primipara's experiences of: 1) maintaining physical well-being; 2) childcare: practice, concern, and coping; 3) utilizing social support; 4) meeting basic needs; and 5) adjustment to a new life.

Discussion: Understanding maternal experiences in each individualized context will lead to providing appropriate care.