［投稿: 研究論文］

Motherhood, Migration and COVID-19

French Mothers' Perinatal Experience in Japan

母性、移民と COVID-19
日本におけるフランス人の母親の周産期の経験

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Abstract: This paper is part of a longitudinal study about French mothers in Japan. We explore the perspective of a privileged migration to bring out new knowledge about migrant mothers' perinatal mental health. We have designed an exploratory mixed research method with qualitative and quantitative data based on responses to an online survey. As a result, we have found that (i) perceived cultural differences and language barriers had more serious long-term consequences on mothers' mental health than COVID-19 restrictive measures, and (ii) the interpersonal quality of patients-medical staff's relationships had a key role to balance out negative experiences.

本稿は、母親である在日フランス人に関する縦断的研究の一部である。我々は、移住してきた母親の周産期精神保健に関する研究に、新たな知見を引き出すため、特権的移住という視点を研究に導入する。我々は、オンライン調査への回答に基づく質的・量的データを用いた探索的な混合研究手法を考案した。その結果、(i) COVID19 の制限的措置よりも、文化の違いや言葉の壁を感じることの方が、母親のメンタルヘルスに長期的に深刻な影響を与えること、(ii) 患者と医療従事者の対人関係の質が、好ましくない経験のバランスをとる上で重要な役割を担っていることがわかった。

Keywords: perinatal mental health, migrant mothers, French mothers in Japan, COVID-19 pandemic
周産期精神保健、移住した母親、日本在住のフランス人の母親、COVID-19 パンデミック

1. Introduction

1.1 Literature on mothers' mental health during the COVID-19 pandemic

Catastrophic events such as wars and earthquakes are familiarly associated with negative health concerns for both mothers and babies, and the COVID-19 pandemic was considered in that regard (Caparros-Gonzalez and Alderdice, 2020). The COVID-19 preventive measures included social distancing with professionals of maternal care and mothers' support systems, both being essential to promote access and engagement with maternity services for migrant women (Sweet, 2022; Moro et al., 2022) as well as preventing feelings of isolation and poor mental

health exacerbated by the cease and slowing down of face-to-face or quality ante-natal care (Sweet et al., 2022b; Rice and Williams, 2022). Takubo et al. (2021) observed lower rates of anhedonia and depression but a higher rate of anxiety among women who had given birth during COVID-19, comparatively to women who had given birth before the pandemic.

An international cross-sectional survey reported that the absence of mothers' partners at medical follow-ups during birth contributed to induced stress during pregnancy (Meany et al., 2021). It has been long-known that women's level of satisfaction regarding maternal care is an indicator of the quality of said care (Sawyer et al., 2013) - highlighting the need to make women's experience the center of any research involving their and their child's psychological safety. Considering the way COVID-19's restrictive measures impacted the availability of social and medical support for new mothers, we must explore to what extent it affected women in a vulnerable position due to external circumstances, such as migration.

1.2 Literature on migrant mothers' mental health: Establishing the "risk factors"

In addition to the higher rate of birth complications that migrant mothers and their children face (Bollini and Wanner, 2006; Bollini et al., 2010; Goguikian Ratcliff et al., 2014), statistical research shows that migrant mothers in Western countries are more likely to face mental health issues compared to native populations (Tummala-Narra and Claudius, 2022).

The migratory journey is the loss of a support system and forms a major life event (Ruttenberg et al., 1997; Wolff et al., 2008). Mestre (2016) has identified risk factors that may explain migrant mothers' psychological and physical vulnerabilities. Poorer socio-economic status, discrimination in host societies, traumatic migratory journeys (Moro, 2004), triggering conditions of social displacements such as political and ethnic tensions, wars, famine, violence, etc. (Sam and Berry, 2006; Tummala-Narra and Claudius, 2022), poor access to maternal care and mediocre quality of patient-medical team relationship due to language proficiency issues (Yoshida et al., 1997; Walker and Barnett, 2007; Moro, 2023). Research in clinical psychology makes it difficult to distinguish between the psychological outcomes of potentially traumatizing migratory experience and the outcome of migration in itself, as most qualitative research explores the experience of women who are already psychologically vulnerable before their migratory journey (Mpacko and Hamada, 2022). Beck (2022) assessed that social sciences are oblivious to the variety of migratory experiences that seems to exist. Migrants are defined by arbitrary categories with racial, social and political undertones (Cranston, 2017; Kunz, 2020), that nonetheless reflect an economic reality: from its most privileged experience (expatriates) to its most precarious one (refugees). For this study, we define "privileged" migration through two characteristics:

- European Immigrants in Japan, particularly white Europeans, regardless of their original social classes, benefit from the above-mentioned arbitrary categories. They foster a positive image within their host societies, in comparison to non-white and non-Western migrants (Koutonin, 2015; Cranston, 2017; Farrer, 2018; Beck, 2022).
- What may differentiate "privileged" from "non-privileged" migration, outside of arbitrary categories, is their freedom to choose their host societies. Their choice may be the result of forced displacement or social mobility (education, work opportunities, international marriages…) (Soulet, 2005; Soulet, 2009; Beck, 2022).

We are aware that participants in this study have decided to immigrate from one of the wealthiest country in the world to another. Their migratory journey is not one of forced displacement, rather, it is the result of social mobility.

Understanding the complexity of migratory experiences allows us to categorize and analyze risk factors to offer individualized approaches to maternal care and consequently avoid maternal distress and its negative impact on mother-infant relationships. To broaden social sciences' knowledge about the impact of migration on the human mind and how various levels of social, historical and economic contexts may or may not have a play within women's self-perceived experience of maternity far from their country of origin, this study questions women who come from a western society, France, and who became new mothers during the COVID-19 pandemic in Japan.

1.3 A comparison of childbirth practices and social implications between France and Japan

Both France and Japan have undergone a noticeable medicalization of childbirth along with a westernization of medical practices which is a characteristic of post-industrial societies (Tsipy, 2007; Brun et al., 2003). However, major differences remain in medical practices before and during childbirth. To start, France recommends seven obligatory

prenatal check-ups while Japanese women's averages 14 (Inserm, 2021; Japan Healthcare and Info, n.d.). Epidural analgesia to manage childbirth pain is practiced in 6.1% of cases in Japan while it accounts for 82.7% of births in France (Kurakazu et al., 2020; Inserm, 2021). These differences impact mothers' experience of birth, both in terms of expectations of pain and contributions to the fear of childbirth (Räisänen et al., 2013; Kwok et al., 2015). The differences in practice reveal cultural and social expectations of each environment. According to Tsipy (2007), the idea that women's bodies must 'surrender' to the knowledge of the medical field while enduring pain and controlling everything else that falls under individual responsibility (diet, work, etc.) has grown simultaneously to the medicalization of childbirth in Japan. Inversely, France's modern take on childbirth tends to prioritize women's agency and comfort following feminist revolutions that criticized the paternalistic approach to the doctor-patient relationship while promoting painless births (Brun et al., 2003). Meanwhile, Japanese birthing practices tend to emphasize and praise natural childbirth without the use of pain medication (Tsipy, 2007; Maeda et al., 2019). Both countries display opposite conceptions of birth and may generate differences in expectations between French mothers and Japanese medical teams.

1.4 Objectives and research question

Participants in this study migrated to Japan as a result of social mobility. Therefore, key mental health risk factors identified by Mestre (2016) such as financial instability, traumatic migratory journey and negative representations of host societies do not concern this population. To understand the nuances of unique migratory experiences, we have designed an exploratory research plan. Thus, we expect that highlighting the testimonies of mothers going through a privileged experience of migration during the COVID-19 pandemic will provide new knowledge about migrant mothers' mental health. How did COVID-19 restrictive measures impact the experience of French mothers in Japan?

A quantitative and qualitative analysis of an online survey filled by French mothers who have had a child in Japan gathered answers to the following question: what was their perinatal experience with Japanese hospitals during the COVID-19 pandemic?

2. Survey and participants

The questions of our survey were chosen based on observations of preliminary results from the longitudinal study this paper is based on. The longitudinal study explores the qualitative analysis of weekly home-based open-ended interviews that occurred for two months from six pairs of mothers and their infants. We recorded mother-infant interactions while they were sharing memories about their migratory journeys, their representations of Japan, how COVID-19 impacted their experience of motherhood, etc. We observed how their discourses influenced the immediate quality of interactions with their infants.

2.1 The survey

A three-part survey on Google Docs was made available online in April 2023 for around one month.

The first part is composed of eight questions whose purpose was to gather anamnestic data. Among them, three single choice questions homogenized the targeted population. We required that each mother completing the survey was of French nationality, from 18 to 44 years old, and had lived and given birth in Japan between 2020 and 2022, otherwise, they were unable to fill up the rest of the survey. In addition, we inquired about the mother's age range, marital status and Japanese language abilities, as well as the child's father's nationality. We asked that participants answer the survey with the child they had during the designated period, regardless of the existence of siblings born outside of the time-range provided.

The second part, composed of eight multiple-choice questions, gathered practical information on the conditions of the pregnancy and birth. More precisely, the type of hospital (private, public, maternity…), the density in terms of urban area (big city, average city, countryside) and the COVID-19 preventive measures adopted by the hospitals.

The third part figured 10 semantic differential scales of 7 points. It graded the mothers' self-perceived experience on the impact that both cultural differences in terms of medical practices and COVID-19 preventive measures had on their mental health.

In between semantic scales circling the same theme, we required obligatory responses to five open-ended questions and asked participants to relate memories associated with sub-themes described in the previous questions.

We have given abbreviations for each semantic scale's theme:

- Medical Follow-ups during pregnancy (MF. PREGNANCY)
- Medical follow-ups during birth (MF. BIRTH)
- Medical Follow-ups during postpartum (MF. POST-PARTUM)

- Mental health during pregnancy (MH. PREGNANCY)
- Mental health during birth (MH. BIRTH)
- Medical support during pregnancy (MS. PREGNANCY)
- Mental health impacted by language barrier (MH. LANGUAGE)
- Mental health impacted by cultural differences (MH. CULTURE)
- Social support provided by the father (SS. FATHER)
- Mental health and overall experience (MH. EXPERIENCE)

We have given abbreviations for the open-ended questions:

- Open-ended questions (OPENENDED. Q1). Ie: Regarding these questions, are there memories that left a mark?
- Open-ended questions (OPENENDED. Q2). Could you specify what period you felt the most impacted you (*translation note: regarding the previous question (s)*); pregnancy, birth or postpartum? (Ie: In other words, regarding these questions, are there memories that left a mark?)
- Open-ended questions (OPENENDED. Q3). Comments and suggestions.

Both the survey and the longitudinal study have been respectively approved by the Keio University's research ethics committee on February 25, 2022, and February 24, 2023. The survey was anonymous. Consent forms were signed by participants who agreed to be part of the longitudinal study.

2.2 Anamnestic information about participants

Twenty-eight anonymous mothers of French nationality from 25 to 44 years old have completed this survey shared by online private groups and associations fostering communities with French-speaking parents in Japan. They gave birth to a child between 2020 and 2022 in Japan. 53.6% (n = 15) are aged between 25 and 34 years old, and 46.4% (n = 13) are aged between 35 and 44 years old. Half of the surveyed mothers (n = 14) claim to have a partial understanding of the Japanese language (from an intermediate level to an advanced intermediary level), while 28.6% (n = 8) are beginners, and 21.4% (n = 6) are bilingual. First-time mothers represent 67.1% (n = 19) of our sample. Japanese fathers make up 53.6% (n = 15) of our population, while French fathers correspond to 39.3% (n = 11). The remaining fathers are of other Asian nationalities (n = 2). At the time of birth, mothers were married or in a committed relationship with the child's father, none were separated.

2.3 Contextual information on pregnancy, birth and postpartum medical follow-ups

Between 53.6% (n = 15) and 60.7% (n = 17) of mothers (Table 1) chose a private hospital for pregnancy, birth and postpartum follow-ups. Between 21.4% (n = 6) and 28.6% (n = 8) of mothers chose a public hospital. 10.7% (n = 3) preferred a "Josanin" (a Birth center exclusively run by midwives). Most respondents to the survey were in the Kanto area at the time of pregnancy, birth and postpartum (Table 1).

Most mothers were strictly spoken to in Japanese during pregnancy (n = 17, 60.7%), birth (n = 21, 75.0%) and postpartum

Table 1 Data gathering statistical information on practical conditions of pregnancy, birth and postpartum

Areas chosen by participants				
n (%)	Kansai	Kanto (Tokyo)	Tohoku	Chugoku
Pregnancy	5 (17.9)	21 (75.0)	1 (3.5)	1 (3.5)
Birth	5 (17.9)	22 (78.6)	1 (3.5)	-
Type of Urban Environments				
n (%)	Countryside	Big city	Average city	
Pregnancy	1 (3.5)	21 (75.0)	6 (21.4)	
Birth	-	21 (75.0)	7 (25.0)	
Postpartum	1 (3.5)	20 (71.4)	7 (25.0)	
Type of medical facilities				
n (%)	Birth centers	Private hospitals	Public hospitals	Other
Pregnancy	3 (10.7)	17 (60.7)	6 (21.4)	2 (7.1)
Birth	3 (10.7)	16 (57.1)	8 (28.6)	1 (3.5)
Postpartum	3 (10.7)	15 (53.6)	7 (25.0)	3 (10.7)

Notes.
N = 28

medical follow-ups (n = 19, 67.8%). English was found at the second position, and 14.2% (n = 4) of mothers were able to communicate in French with a combination of English and Japanese during pregnancy and postpartum. Most mothers report no medical complications during pregnancy, birth (n = 21, 75.0%), and during postpartum (n = 24, 85.7%). All surveyed mothers were cared for by Japanese medical teams during pregnancy, birth and postpartum.

3. Methods

Our main approach is rooted in qualitative analysis. We aim to give a voice to the participants and highlight dominant narratives capturing their experiences through both the words they chose to describe them and the choices they made to answer our research questions.

To analyze data, we have designed an exploratory method that best suits our research purpose. The exploratory mixed method research has been recommended to grasp the newness of a research topic (here, the impact of COVID-19 on migrant mothers' mental health with a privileged immigrant background) and the strong qualitative component of a research question (Creswell and Clark, 2011). The qualitative content will be prioritized, and quantitative data will be used with a complementarity approach, meant to "seek elaboration, enhancement, illustration and clarification of the results from one method with the results from the other method" (Creswell and Clark, 2011, p.62). We will observe and report interactions between the findings of our qualitative data and those of our quantitative data, in that order. Then, we will elaborate on interpretations that best represent our understanding of the results.

3.1 Qualitative analysis

We have opted for a thematic analysis and identified themes through similarities and patterns as well as meanings. Our inductive approach led us to prioritize an experiential orientation of data instead of a critical orientation of data (Braun and Clarke, 2012) in which themes extracted from responses were derived from the content itself rather than preconceived codes. We reviewed our participants' answers several times, and the first times were aimed at finding out general themes, such as communication, social support, etc. The later readings were made to identify existing sub-themes, such as negative or positive appreciation. We used ATLAS.ti, an online tool to categorize and quantify the themes that were extracted from the data. ATLAS.ti is a specialized software designed to manage a large quantity of qualitative data. It was acquired by Lumivero, LCC in 2024, "a computer-assisted QDA solution for qualitative, quantitative, and mixed-method research" (Hall, 2024). The data has been translated from French to English by the main author of this article.

3.2 Quantitative analysis

The estimated number of French female residents who had a baby in Japan during the studied period and from which our sample is extracted averages 300 (Personal communication with the French Embassy in Japan, 10/25/2023). However, due to the small, studied sample, the obtained data does not follow the normal distribution. Non-parametric statistical tests, mainly the Mann-Whitney U test, were used to assess if there were any significant differences between groups of participants. Similarly, the Spearman correlation was prioritized to assess any correlations between the variables. We will use Beins' guidelines (2021) to observe significant levels of differences between groups when $.05 < p < .10$. The level of significant differences will be established as follows: $p < .1$ is weak evidence or a trend, $p < .05$ is strong evidence, and $p < .001$ is very strong evidence.

4. Results

4.1 Main themes and sub-themes extracted from open-ended questions

The main themes have been organized and categorized from participants' answers to open-ended questions. To accurately represent participants' opinions, a sub-theme was created for each new aspect discussed. Themes were designed by the number of extracts. A data extract is a sentence or a part of a sentence expressing an idea from a contributing participant.

For brevity, only sub-themes with a high impact on overall answers (for instance with a high number of contributing participants and extracts) as well as sub-themes that specify whether appreciations or commentaries were positive or negative, were selected to appear in Table 2.

We removed minor themes that were colluding with others, such as "Hospital rules." We were able to include the notions of "rules" as explained by participants in our analysis.

4.2 The impact of restrictive measures of COVID-19 on mothers' available social support

One of the two most important narratives that dominate most

Table 2 Main themes and sub-themes extracted from open-ended questions

Themes	*n* (%) Participants contributing	*n (%)* Extracts
Theme 1: Social support that concerns the restriction or allowance of the child's father, the mother's family, the presence of professional help and the support of medical teams	22 (78.5)	49 (24.8)
Sub-theme 1: Restriction of Social Support: Father of the Child	19 (67.8)	32 (16.2)
Sub-theme 2: Available Social Support	11 (39.2)	14 (7.1)
Sub-theme 3: Restriction of Social Support: Mothers' Family	4 (14.2)	4 (2.0)
Theme 2: Communication that concerns the language barrier and positive and negative appreciation of communication skills that are not associated with language proficiency	19 (67.8)	38 (19.2)
Sub-theme 1: Language Barrier	12 (42.8)	13 (6.6)
Sub-theme 2: Negative appreciation of communication skills of medical teams	10 (35.7)	20 (10.1)
Sub-theme 3: Positive appreciation of communication skills of medical teams	4 (14.2)	5 (2.5)
Theme 3: Mental health that includes negative or positive impacts on mothers' well-being such as stress, isolation, feelings of being cared for, feelings of agency regarding medical decisions taken by medical teams etc.	24 (85.7)	54 (27.4)
Sub-theme 1: Feelings of agency regarding medical decisions over birth, pregnancy or postpartum for both mothers and babies:		
Negative appreciation	8 (28.5)	11 (5.5)
Positive appreciation	3 (10.7)	3 (1.5)
Sub-theme 2: Feelings of being cared for or heard and other positive memories	9 (32.1)	15 (7.6)
Sub-theme 3: Mentions of trauma, shock, depression, isolation, loneliness and stress	16 (57.1)	22 (11.1)
Theme 4: Medical practices that include birth, breastfeeding practices, medical follow-ups and weight management.	15 (53.5)	32 (16.2)
Theme 5: Representations of medical teams	17 (60.7)	24 (12.1)
Sub-theme 1 Negative appreciation	8 (28.5)	9 (4.5)
Sub-theme 2: Positive appreciation	12 (42.8)	16 (8.1)

Notes.
N participants = 28
N extracts = 197

answers to open-ended questions concerns mothers' available social support, Theme 1 (Table 2). We have defined 'social support' as individuals or groups close to mothers. They had a role in the way participants navigated pregnancy, birth or postpartum.

Out of all sub-themes, the sub-theme with the most extracted answers concerns the restriction of fathers during medical follow-ups (Participants = 67.8, Extracts = 16.2, Theme 1, Sub-theme 1, Table 2).

As Table 3 indicates, most fathers were restricted from attending medical follow-ups during pregnancy and postpartum but were allowed to assist their partners during labor.

Responses to open-ended questions that are associated with the restriction or allowance of fathers tend to focus on memories associated with labor. Participants explain that the allowance or restriction of fathers was the main factor that prompted them to choose a peculiar hospital or change hospitals: "*It was very difficult to change hospitals during pregnancy because my husband was not allowed to assist with the birth.*" Participants emphasize that fathers' ability to be present during birth had a key role in their overall mental health. After rating her satisfaction scores to questions related to mental health during pregnancy and birth, one mother specifies: "*My husband was allowed to be present inside the operating room while the*

Table 3 Percentage of Restriction or Allowance of Fathers during Medical Follow-ups

Percentage of Restriction or Allowance of Fathers during Medical Follow-ups			
n (%)	Pregnancy	Birth	Postpartum
Allowed	11 (39.3)	20 (71.4)	11 (39.3)
Restricted	17 (60.7)	8 (28.6)	17 (60.7)

Notes.
N = 28
Subgroups of participants *n* are within parentheses.

Table 4 Mothers rated feelings of being isolated vs. surrounded during birth

Mothers' rated Feelings of being Isolated (1) vs. Surrounded (7) during Birth				
		n	Mean	Standard Deviation
Fathers in Labor Rooms	Allowed	20	5.2	2.2
	Restricted	8	2.8	1.7

Notes.
N = 28.

caesarian was occurring", while another explains: "*It was hard during labor and, even if I appreciated being alone with my child, it was very hard for my partner to feel included after the birth, between me and the baby*".

Statistically, the Mann-Whitney U test shows that mothers whose husbands were allowed during birth gave a significantly higher appreciation of feeling surrounded during labor compared to mothers whose husbands were restricted to assist (U = 31.5, n1 = 20, n2 = 8, p = .01). The effect size r was 0.6 which is a large effect (Table 4).

4.3 Fathers as Linguistic Mediators

One participant explains that the lack of available social support by her partner comes as an additional burden to the language barrier and the physical ordeals of pregnancy and birth: "*My husband was not there, no visit. I was very tired, so it was very hard to speak Japanese and understand the mass of information given to me*." This respondent shares insight into the difference she perceived between the presence and the absence of her child's father depending on the hospital's rules: "*It was especially hard when my husband was not there and I was alone with the medical team, but overall, everyone was nice.*" Several participants imply that their husbands played a role in mediating their relationship with medical teams.

To test the effect of a perceived language barrier on mothers' experiences with medical teams during birth, and whether fathers played a significant role within these perceptions due to their respective native language, we have compared the two most common nationalities within our sample, French (n = 11, 39.3%) and Japanese (n = 15, 53.6%) fathers.

Mothers whose husbands are of French nationality indicated that they felt more surrounded by medical teams than their counterparts of Japanese nationality. They gave a higher mean score of satisfaction (M = 6, SD = 1.4) to MF. BIRTH compared with mothers whose husbands are of Japanese nationality (M = 5.1, SD = 1.6). The difference between both groups was significant and weak evidence was observed (U = 48.5, $n1$ = 11, $n2$ = 15 p = .077). The effect size r was 0.3 which is a medium effect.

4.4 The difficulty of communication between mothers and medical teams

Communication with medical teams is addressed by participants through two different angles: a lack or abundance of necessary information presented to them, or issues directly linked to what mothers identify as a language barrier.

Negative appreciation of communication with medical teams stands for the third most impactful sub-theme on overall open-ended answers (Participants = 35.7, Extracts = 10.1, Theme 2, Sub-theme 2, Table 2). This sub-theme emphasizes extracts in which language proficiency was not explicitly identified as the root of negative appreciation of communication with doctors and nurses. To complete our analysis of what constitutes a healthy patient-medical team style of communication per the participants' perspectives and their own words, we include notions of "empathy", feelings of being "heard" or "unheard" that constitute the fifth most important sub-theme by number of extracts (Participants = 32.1, Extracts = 7.6, Theme 3, Sub-theme 2, Table 2).

Regarding participants who felt that the lack of communication had an impact on their mental health, some mothers appear to insinuate that the medical team withheld information: "*In fact, I was shocked to receive no information during labor. For example, I did not know when and to what extent my cervix was open, I did not know anything.*" Another participant testifies: "*My son was in breech position and the medical team had known about it for several weeks before the pregnancy was carried to term, but they remained silent about it and only told me two weeks and a half before the end, jeopardizing any chance of making the baby naturally turn over.*" In contrast, a third mother chooses to highlight an abundance of information during a similar experience: "*My daughter was in breech position and the doctor and nurses spent a lot of time explaining the options that I had, they often asked me how things were happening in France.*"

While Japanese culture was not always explicitly cited by mothers in open-ended questions, some participants linked feelings of being "unheard" to cultural differences: "*It was difficult to be listened to by the medical team. It is not only because of language; I think culture played a part*." One reported: "*I quickly understood that it was useless to ask questions because, each time I was met with "Here we are in Japan, we do it that way and that is all*", while another highlights nurses' ability to respond to her needs for advice "*I went through a beautiful pregnancy, the nurses were very attentive to my well-being, they gave me a lot of advice for the birth (...), they adapted to me and my every move (...), reassured my husband.*"

Aside from appreciations related to medical teams' communication styles, the language barrier accounted for 42.8% of participants for 6.6% of extracts (Theme 2, Sub-theme 1, Table 2). Mothers who were strictly spoken to in Japanese appeared to have felt particularly isolated. They consistently rated the lowest scores on the semantic scales measuring feelings of isolation vs. being surrounded. For MH. PREGNANCY the mean score was 2.9 (n = 17, SD = 1.7) and for MH. BIRTH, the mean score was 3.9 (n = 21, SD = 2.8).

To assess what part of participants' experience influenced their mental health during postpartum based on the themes identified by the survey, we conducted an inter-variable correlation between scores comparing every semantic scale (Table 5). Participants identified the impact of perceived cultural differences (MH. CULTURE) as the strongest determining factor that influenced their mental health during postpartum (MH. EXPERIENCE). The positive correlation indicates that the stronger participants felt that cultural differences had a negative impact on their mental health, the more likely they were to rate that the themes highlighted in this survey had a negative impact on their mental health during postpartum. The Spearman correlation showed that there was a statistically significant correlation between both variables (r (26) = 0.79, p = <.001). In comparison, a strong, statistically significant but weaker correlation was observed between scores to MH. LANGUAGE and MH. EXPERIENCE (r (26) = 0.66, p = <.001). Similarly, this positive correlation indicates that the stronger participants felt that the language barrier had a negative impact on their

Table 5 Inter-variable correlation between the semantic scales

Semantic scale	1	2	3	4	5	6	7	8	9	10
1. MF. PREGNANCY	-	.51**	.64***	.28	.38**	.60**	-.26	-.31	-.34*	-.38**
2. MF. BIRTH		-	.49**	.61***	.78***	.53**	-.11	-.12	.02	-.29
3. MF. POST-PARTUM			-	.39*	-.45*	-.57**	-.26	-.34*	.08	-.32
4. MH. PREGNANCY				-	.72***	.58**	-.01	-.03	.20	.01
5. MH. BIRTH					-	.53**	.06	.00	.29	-.07
6. MS. PREGNANCY						-	-.25	-.22	-.18	-.11
7. MH. LANGUAGE							-	.82***	.38**	.66***
8. MH. CULTURE								-	.33*	.79***
9. SS. FATHER									-	.43**
10. MH. EXPERIENCE										-

Notes.
p<.1*
p<.05**
p<.001***

mental health, the more likely they were to rate that the themes highlighted in this survey had a negative impact on their mental health during postpartum.

4.5 The negative impact on mothers' mental health

As stated above, perceived cultural differences and language barriers seem to have greatly affected women who have experienced a difficult journey. This participant states: "*At every single step, the language barrier and culture have had an enormous negative impact on my mental health, even after birth. There were moments during which I felt greatly depressed and had a lack of understanding of the situation*." Mentions of trauma, shock, depression, isolation, loneliness and stress are the most important sub-theme per number of extracts (Participants = 57.1, Extracts = 11.1, Theme 3, Sub-theme 3, Table 2) categorized under the theme of "Mental Health" (Participants = 85.7, Extracts = 27.4, Theme 3, Table 2) which has the highest number of extracts and participants across all themes.

In addition to the loneliness felt by participants due to COVID-19 restrictive measures, several mothers link negative mental health outcomes to a lack of agency over medical decisions, particularly regarding their birth plans. A birth plan is a written agreement stating mothers' preferences about the type of care they wish to receive during and after labor, such as the availability of epidural birth, certain pain relief medications, labor positions, etc. One mother specifies: "*Sometimes, I felt like I had to fight to make my choices heard, although they were recommended by the World Health Organization. I spent more than two hours on the birth plan and the team could not justify their decision in light of the COVID-19 restrictive measures."* and another, who believed that she suffered from undiagnosed postpartum depression, clarified: "*The birth plan was not respected at all. I was told 'This is not how we do it in Japan.' No flexibility. (...) The fact that many of my requests were refused created a lot of stress*." In contrast, positive appreciation regarding mothers' feelings of agency during their journey (Participants = 10.7, Extracts =1.5, Theme 3, Sub-theme 1, Positive appreciation, Table 2) highlights that their birth plan was respected and that they trusted their medical teams' decisions.

Another participant stresses their inexperience as an additional burden to being alone in a foreign country: "*There was no empathy toward first-time foreign mothers and no support.*"

Worries affecting mothers' mental health throughout their experience in Japan during the COVID-19 pandemic concerned 16 surveyed mothers, who responded positively to the need to seek professional help. However, only 20% indicated that they had been able to receive it.

4.6 Representations associated with medical teams

"Positive representations of medical teams" is the fourth most important sub-theme by extracts (Participants = 42.8, Extracts = 8.1, Theme 5, Sub-theme 2, Table 2).

Most participants contributing to this sub-theme highlight that the positive aspects of the relationship they were able to form with their nurses and doctors balanced out negative and unavoidable features of their experience. For instance, a mother who experienced complications during labor and whose husband was not allowed inside the operating room gave weight to the key role of nurses: "*One of the nurses was really nice and held my hand during labor and the caesarian, it really helped me, and I am thankful*." To add, one participant emphasized that her assigned nurse was kind although they could not understand one another. Others specify that they felt treated like a "*princess*" during postpartum care, with particularly "*present*" nurses who were attentive to details.

5. Discussion

Similarly to the literature (Meany et al., 2021), participants in this study described negative experience when their partners were not allowed in birth rooms. Other results were broadly in line with earlier studies (Yoshida et al., 1997; Walker and Barnett, 2007; Moro, 2023), such as communication issues between mothers and medical teams because of language barrier and perceived cultural differences. However, COVID-19 restrictive measures seem to have aggravated every aspect of these factors. For instance, the tighter or absence of social support, specifically the restriction of fathers' presence during medical follow-ups deprived mothers of cultural mediators, linguistic and moral support when they needed it. Participants describe positive memories when they cite communicative, caring and supportive interpersonal relationships with medical teams.

We expected that analyzing the testimonies of a privileged migration that does not experience some of the risk factors identified by Mestre (2016), such as financial instability, traumatic migratory journey and negative representations of host

societies, would offer a layered hindsight on the impact of migration on mothers' mental health. Below are what we were able to clarify.

5.1 Perceived cultural differences and language barriers had more serious long-term consequences on mothers' mental health than COVID-19 restrictive measures

Our qualitative and quantitative data present noticeable disparities. Firstly, participants overwhelmingly expressed the need for fathers' social support in open-ended questions. However, the quantitative data suggest that other determining factors impacted negatively their mental health. Cultural misunderstandings that were not always identified as such in conscious discourses were reflected in our inter-variable correlations. Indeed, surveyed mothers identified perceived cultural differences as the strongest determining factors that negatively impacted their mental health during postpartum. Language barrier came second, and restriction or allowance of fathers' support came third. Secondly, difficulties in communication reported by mothers highlighted two important aspects of our findings. Namely, results show that when mothers were strictly spoken to in Japanese, they were experiencing feelings of isolation at a greater intensity. This reinforces the findings of Hou and Beiser (2006) attesting that refugee mothers' psychological well-being is greatly impacted by their level of proficiency in the host society's language (Abi Zeid Daou, 2022). We may expect that mothers with immediate access to a Japanese support system have higher satisfaction scores at questions that may impact their mental health. Surprisingly, participants with French partners appeared to have felt more surrounded during medical follow-ups than their counterparts. Our qualitative data suggest that mothers with Japanese partners may have expected linguistic support and cultural mediation to help them navigate key moments of their journey. Therefore, it may have left them with a greater sense of loneliness when their partners could not meet their expectations due to COVID-19 restrictive measures. On the other hand, mothers with French partners received help from a support system available in their mother language. It may have contributed to a level of linguistic comfort that mothers with Japanese partners did not have. Thus, it may inspire a greater impression of "feeling surrounded."

To explain the difference between results of our quantitative and qualitative data, we suggest that fathers' restricted access to medical follow-ups was a negative consequence of COVID-19 easily identified by mothers. In contrast, navigating cultural differences required mothers to be subjected to additional emotional labor and awareness of both cultural teams' and mothers' own cultural biases. Thus, articulating these aspects in open-ended questions may present a greater challenge.

Below, we will speculate about the cultural biases that may have played a role in the difficulties in communication reported by participants in this questionnaire.

Firstly, mothers emphasized the lack of agency they had in their relationship with doctors and nurses. According to our literature review, both countries showcase opposite medical and social expectations regarding childbirth. Japanese mothers' childbirth experience appears more medically controlled than in France. They prioritize safety over comfort and patient agency. French mothers may expect to have a concrete role in medical decisions resulting in mismatched expectations around agency and communication between them and Japanese medical teams. Secondly, mothers highlighted the lack of 'flexibility' attached to their perceptions of rules for COVID-19 restrictive measures and medical-based decisions. "In France, *particularism* is a strong value. Particularist thinking emphasizes flexibility and adapting to unique circumstances" (Shaules, 2015, p.141). In other words, treating patients on a case-to-case basis is an existing value in French society. French women may have experienced cultural shocks when they were met with various refusals to their requests, due to underlying cultural differences surrounding bending the rules for specific circumstances.

5.2 The interpersonal quality of patients-medical relationships had a key role in balancing out negative experience

Mothers pointed out that positive interactions with nurses and attentive doctors left a lasting mark on their experience. Results show that overall satisfaction scores targeting the care provided directly by medical teams are on a positive trend. However, we cannot infer about differences between pregnancy, birth or postpartum care due to the lack of significant results. A larger population may help us identify more variables that influence satisfaction scores.

5.3 Limits and strategies to improve psychological support for French and other foreign mothers in Japan

The voices of participants have provided insightful elements to

investigate what may have been at the root of mismatched expectations and difficulties in communication causing long-felt distress. Further studies conducted after the COVID-19 pandemic may help understand what factors impact foreign mothers' perinatal mental health in Japan. However, the voices of medical teams are a missing part of our study. We may wonder if medical teams' language proficiency has played a role in missing pieces of information during labor. How do medical teams adapt to foreign mothers? Further studies assessing medical teams' representations of their foreign patients are necessary to provide complementary answers.

Standardized formations about cultural sensitivity should be recommended for medical teams who care for foreign patients. Mental health support should be made readily available in mothers' native language for those who request it. Perinatal mental health is an undeniable part of quality care for mothers (Sawyer et al., 2013). This study reinforces the fact that it should be made a priority, particularly during events that severely reduce available social support such as COVID-19.

This research suggests that for a 'privileged' migratory journey, language barriers and perceived cultural differences impact mothers' perinatal mental health.

There are no conflicts of interest.

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Appendix Semantic differential scales from 1 to 7 choices

Semantic differential scales assessing self-perceived impact on mothers' mental health:	
Medical Follow-ups during pregnancy (MF. PREGNANCY)	During pregnancy, I felt well-accompanied by medical teams: - My choices were respected, my opinion was heard and taken into consideration. - I received a quality guidance regarding food, weight gain, and antenatal risks. (1) Negative: I did not feel well accompanied by medical teams, (7) Positive: I felt well accompanied by the medical teams
Medical Follow-ups during birth (MF. BIRTH)	During birth, I felt well-accompanied by medical teams: - My choices were respected, my opinion was heard and taken into consideration. - I felt like my birth plan was respected. - Informed consent was requested of me for any medical decision. (1) Negative (7) Positive
Medical Follow-ups during postpartum (MF. POST-PARTUM)	After birth, I felt well-accompanied by medical teams: - Post-birth medical follow-ups - Breastfeeding medical follow-ups (1) Negative (7) Positive
Open-ended questions (OPENENDED. Q1):	
Mental health during pregnancy (MH. PREGNANCY)	During pregnancy, I felt: (1) Isolated (7) Surrounded
Mental health during birth (MH. BIRTH)	During birth, I felt: (1) Isolated (7) Surrounded
Open-ended questions (OPENENDED. Q1)	
Medical support during pregnancy (MS. PREGNANCY)	During pregnancy, I felt morally supported by the medical teams regarding any worries, questions and/or events that I may have gone through: (1) Not at all (7) Yes, a lot
Open-ended questions (OPENENDED. Q1)	

Mental health impacted by language barrier (MH. LANGUAGE)	I have felt that the language barrier had an impact on my mental health: (1) Positive: language barrier had a positive impact on my mental health (7) Negative: language barrier had a negative impact on my mental health
Mental health impacted by cultural differences (MH. CULTURE)	I have felt that the cultural differences had an impact on my mental health: (1) Positive: cultural differences had a positive impact on my mental health (7) Negative: cultural differences had a negative impact on my mental health
Open-ended questions (OPENENDED. Q2): There is a word limit.	
Social support provided by the father (SS. FATHER)	I felt that the absence of restricted presence of my child's father had an impact on my mental health: (1) Positive (7) Negative
Open-ended questions (OPENENDED. Q2)	
Mental health and overall experience (MH. EXPERIENCE)	The experiences that I have reported in this survey had an impact on my overall mental health during postpartum: (1) Positive (7) Negative
Open-ended questions (OPENENDED. Q3)	