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First-time fathers' experience of childbirth: a cross-sectional study

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ABSTRACT

Objectives: The purposes of this study are to report first-time fathers' experiences of childbirth through three dimensions (professional support, worries and prenatal preparation) and to analyse the influence of sociodemographic, antenatal and obstetrical factors on the three dimensions.
Setting: Participants were recruited in France and Switzerland from two university hospitals that routinely manage high-risk pregnancies (level 3 – perinatal care level), with 4,000 to 5,000 annual births each.
Methods: This is a secondary analysis of a cross-sectional study. The data initially were collected for the cross-cultural validation of the First-Time Father Questionnaire (FTFQ) into French. Descriptive statistics were used to report the participants' characteristics and their questionnaire responses. Multivariate linear regression analysis was carried out to stress the positive or negative factors linked with fathers' experiences of childbirth.
Findings: Among 350 first-time fathers, 160 completed the FTFQ (response rate of 45.7%). The average age of the participants was 33 years old. We observed 12 questionnaire items with more than 20% unfavourable responses, seven of which involved the measurement of the worry dimension. Antenatal education and the prenatal-preparation dimension were positive factors linked with fathers' experiences. In addition, 57% of participants reported using one means of antenatal education, and 45% accessed information from family or friends.
Conclusions and implications for practice: The results suggest that first-time fathers need more professional support to foster positive experiences of childbirth. Their experiences of childbirth are associated with considerable worry. Antenatal classes specifically for fathers could reduce this worry and support the fatherhood process. Research should be carried out on these topics.

Introduction

Pregnancy and childbirth represent important adjustment periods within a family, and parents experience this transition to parenthood as a major psychological disruption. (Deave & Johnson, 2008). Even if doing so was chosen and desired, becoming a father involves significant life changes for a man (Goodman, 2005) and can affect their mental health, leading to stress (Philpott et al., 2017), anxiety (Leach et al., 2016) or depression (Cameron et al., 2016; Da Costa et al., 2017; Paulson & Bazemore, 2010). Professionals expect fathers to have active roles during the prenatal, childbirth and postnatal periods, but fathers' own experiences of it often are not considered. Fathers often say they feel useless, hopeless or anxious and that they did not expect childbirth to be such a demanding period (for a review, see Genesoni & Tallandini, 2009). Thus, considering fathers' experiences during childbirth is important.

While many studies have been conducted on women's experiences, few studies have considered fathers' experiences of childbirth. Several studies have shown that the majority of fathers report a positive experience of childbirth (Hildingsson et al., 2011; Margareta Johansson et al., 2012). A Quebecer study investigated fathers' representations of how they experienced their child's birth (de Montigny et al., 2015). They had either a positive or a traumatic experience. Positive experiences were defined by having realistic and flexible expectations, being able to participate actively, experiencing well-being emotions and being supported by competent healthcare professionals. However, traumatic experiences were characterised by having unrealistic and rigid expectations, experiencing distressing emotions and being looked after by professionals who limited fathers' active participation . In another study conducted to observe fathers' and mothers' birth experiences (Chan & Paterson-Brown, 2002), most of the fathers reported a positive experience and indicated that their partners underestimated this positive experience. Moreover, the mothers evaluated their partners as being more helpful than the fathers had felt. Finally, both mothers and fathers reported that their relationship improved as a result of their shared birth experience .

The evaluation of fathers' experiences of childbirth differs greatly by study. In some studies, participants were asked to answer questions

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about their birth experiences on a Likert scale ranging from very positive to very negative (Hildingsson et al., 2011). We found two questionnaires specifically developed to assess fathers' experiences of childbirth that were validated for their psychometric properties: the Kuopio Instrument for Fathers (KIF; Vehviläinen-Julkunen & Liukkonen, 1998) and the First-Time Father Questionnaire (FTFQ; Premberg, Taft, Hellström, & Berg, 2012).

The KIF evaluates the feelings of discomfort, pleasure and pride related to staff members as well as feelings related to the maternity environment (Vehviläinen-Julkunen & Liukkonen, 1998). Fathers were invited to fill out the questionnaire during a period from immediately after birth, in the delivery room, to before the mother and baby were discharged from hospital, normally within three days. The midwives in charge of the births gave the questionnaire to the young first-time fathers. These procedures could be discussed. According to previous studies, the early postpartum period is not a good time to assess the experience of childbirth. Waldenström et al. (2004) described this as a time when the halo effect (secondary euphoria or traumatic denial) skews responses. In addition, the fact that the midwife in charge of the delivery gave the questionnaire in person could have generated social-desirability bias in the responses. Finally, this questionnaire was validated on a population of "young fathers" and "first-time fathers". It seems like a delicate task to decide how old a man has to be to be considered a young father. Sociologically, men and women become parents later in high-income countries. Thus, the impact of being a first-time father seems to be the most relevant variable.

The FTFQ measures worry, information, emotional support and acceptance (Premberg et al., 2012). It is intended to be completed one month after childbirth, which seems to be a more relevant time for assessing the experience of the childbirth among women (Green et al., 1990). We hypothesised that men would be subjected to similar effects. In addition, fathers were allowed to complete the FTFQ on their own, which avoids the social-desirability bias. Finally, it is aimed at first-time fathers. This population is the correct target because they have been described as being the most at risk of having bad experiences of birth. The FTFQ was written in Swedish but has undergone cross-cultural adaptation into French (Capponi et al., 2016). For the French version, 19 items were retained out of 22 for three dimensions of the four from the questionnaire developed by Premberg et al. (2012): (1) professional support, (2) worry and (3) prenatal preparation.

Among factors that can influence fathers' experiences of childbirth, the most important is the mode of delivery. Indeed, fathers report experiences of childbirth that are more negative during emergency caesarean sections or instrumented vaginal delivery than during physiological births (Chan & Paterson-Brown, 2002; Margareta Johansson et al., 2012; Nystedt & Hildingsson, 2018). Dissatisfaction with the medical care provided to partners also affects the birth experience (Margareta Johansson et al., 2012). Factors related to midwifery that influence birth experiences positively include the support provided by the midwife, her continuous presence in the delivery room and the information given about the progress of labour (Hildingsson et al., 2011).

The purposes of this article are (1) to report on fathers' experiences of childbirth in terms of the three dimensions (professional support, worries and prenatal preparation) of the French version of the FTFQ and (2) to analyse factors that influence these variables.

Method

Design

This article is a secondary analysis of a cross-sectional study, and the objective was to analyse fathers' responses from a clinical obstetrical point of view. The data initially were collected for the cross-cultural validation of the FTFQ into French. However, during that transcultural adaptation and its testing, the collected data were only used in a psychometric approach (Capponi et al., 2016) and not analysed for their content.

Sample

The participants were first-time fathers who were present during their partners' stays in the maternity units at University Hospitals of Geneva (HUG, Switzerland) or the Clermont-Ferrand University Hospital (CFUH, France). These two university hospitals are in neighbouring border regions of France and Switzerland and have a history of research collaboration. Both maternity units routinely manage high-risk pregnancies (level 3 – perinatal care level), with 4,000 to 5,000 births per year each. Midwives are responsible for childbirths in these university hospitals. They escalate to doctors on call when pathologies occur.

The inclusion criteria were as follows: father's first child was born from a single pregnancy, without pathology, born at term (at greater than or equal to 37 weeks), not separated from their mother for medical reasons during the postpartum period and spontaneous or instrumental vaginal delivery or elective or emergency caesarean section. Fathers had to be over 18 years old and be able to read and write in French.

In total, 350 fathers agreed to participate, of whom 160 completed the questionnaire a month after their child's birth. Six of them did not meet the inclusion criteria, by not being fathers for the first time, and were excluded from the study. In addition, three participants were excluded from the study because they did not complete more than five items on the FTFQ. Thus, our sample consisted of 151 participants: 121 at the HUG and 30 at the CFUH.

Recruitment and data-collection procedures

A research assistant at each hospital provided information about the present study to first-time fathers by during the early post-partum period, when they came to visit the mother and baby during their stay in the maternity units. The research assistants worked part-time for the study. They gave information to fathers who were present and available to speak during their working days. After checking the fathers' inclusion criteria, the research assistants provided information and collected oral consent to participate. Depending on their communication preferences, the participants received the FTFQ by email or mail one month after the birth, in accordance with the deadline chosen by the authors of the original version of the questionnaire (Premberg et al., 2012). Two reminders were sent, if necessary, up to six weeks post-partum. They could withdraw from the study at any time. Participants who received the questionnaire by mail were allowed to not send it back. Participants who received receiving the questionnaire by email had the option to click on a link that would remove them immediately from the mailing list for this study.

Most of the participants wished to complete the questionnaire online (96%). We used the Lime Survey software package (https://www.limesurvey.org), which is an online survey program commonly used for scientific research. The procedure lasted approximately seven months, from July 2014 to February 2015.

Measure

The French version of the FTFQ (Capponi et al., 2016) includes 19 items grouped into three dimensions: professional support (items 6– 9, 17, 18 and 20–22), worries (items 10–16 and 19) and prenatal preparation (items 1 and 2). For each item, the participants were asked to mark their level of agreement on a four-item Likert scale (quite, partly, not so much or not at all). With these responses, an average score was calculated for each dimension, ranging between 1 and 4. Thus, three scores emerged: the first one reporting the degree of professional support (the lower the score, the higher the support), the second reporting the level of worries (the higher the score, the higher the worries) and the last one reporting the effectiveness of the prenatal preparation (the

lower the score, the better the prenatal preparation). Additional questions were added to the FTFQ to allow for better interpretation of the fathers' responses. Theses variables were related to the fathers' antenatal education, level of education, age and country of origin as well as the professional pregnancy follow-up, mode of delivery, onset of labour and use of epidural analgesia during labour.

Statistical analyses

The descriptive results are reported as percentages, and continuous data are reported as mean (SD) for the demographic, prenatal and childbirth data. Responses according to the maternity centre (University Hospitals of Geneva vs. Clermont-Ferrand university hospital) were compared with t-tests for each item and each dimension of the FTFQ. Means and standard deviations were reported for each of the dimensions. Multiple linear regression analyses were conducted using a backward selection method to identify predictive factors related to the fathers' experiences of childbirth. The influence of the additional variables listed above on the three dimensions from the French version of the FTFQ was measured. For all of the analyses, a p value of $< .05$ was considered significant. The statistical analyses were performed using SPSS software (IBM Corp. Released 2017. SPSS Statistics for Windows, Version 25.0 Armonk, NY: IBM Corp.).

Ethical considerations

In accordance with the Swiss federal law on research on human beings (2014), the Geneva Canton Ethics Commission president ruled that the protocol of our study was exempted from a full review by the Ethics Commission because it carried low risk for the participants. This study was also exempted from French institutional review approval according to the French law on research on humans because it is not an interventional research study. Before November 2016, the French law on biomedical research (Article L.1121–1-1 and Article R.1121–3 of the Public Health Code) did not apply to this cross-sectional study. Standard data-coding procedures were used to safeguard participants' confidentiality.

Findings

Sample

Our sample consisted of 151 participants aged 22 to 55 years old (M = 33, SD = 5.10). Most of them had a university education (52.3%) and were born in Switzerland or France (69.7%). All of the participants declared that they lived with their children's mothers and were present during the childbirth to assist their partner. Almost all of them chose to receive the questionnaire by e-mail (96%).

Data related to the antenatal education and prenatal preparation dimensions

Four types of antenatal education were offered to first-time fathers: antenatal classes (59.6% of fathers), information given by family and friends (45% of fathers), personal research (27.2% of fathers) and information found on the Internet (19.2%). Of the participants, 57% reported using one type of antenatal education, 19.9% used two, 17.9% used three and 5.3% used four types, while 20.5% reported not using any form of education.

In addition, for item 1 of the FTFQ concerning the prenatal preparation dimension, 59.6% of the participants reported that they felt well prepared for the birth, 20.5% very well prepared, 17.9% felt somewhat unprepared and 2% did not feel well prepared at all. Regarding professional pregnancy follow-ups, 62.3% of them were done by a doctor, and 33.1% were done by a midwife. Finally, 9.3% of the participants reported having experienced a difficult event during pregnancy (the death of a loved one, loss of a job, diagnosis of a serious illness in themselves or the child's mother, powerlessness under medical orders, fear of a stillborn baby, the mother's mood, amniocentesis or absence from home for personal reasons).

Data related to childbirth

Regarding the mode of delivery, 54.3% of the births were spontaneous vaginal deliveries, 20.5% were instrumental deliveries (vacuum or forceps), 4.6% were planned caesarean sections and 20.5% were emergency caesarean sections. In addition, the onset of labour occurred spontaneously in 53% of the cases, and 85.4% of women received epidural analgesia during childbirth.

In addition, 53.3% of the fathers reported that the experience of childbirth matched their imagined scenarios. Regarding the reasons for their participation in childbirth, 34.5% of fathers reported that they attended the birth because they wanted to, 2.8% did so because their partners asked them to and 62.8% did so both out of personal desire and at their partner's request. On a scale from 0 (not at all useful) to 10 (extremely useful), the participants reported usefulness was an average of 7.0 (SD = 2.49) during labour and 6.75 (SD = 2.94) during delivery. On a scale from 0 (very poor) to 10 (very good), the fathers' experience of childbirth was an average of 8.03 (SD = 2.54).

When asked about their ideal birth, 40.7% of the participants reported that the ideal birth would be a spontaneous labour, 28.6% a vaginal delivery, 21.4% a painless delivery, 7.1% a delivery with the chosen professional, 1.4% an induced labour and 0.7% a planned caesarean delivery. Notably, 94.5% of the fathers reported that they wanted to attend births during future pregnancies.

FTFQ responses

With scores ranging between 1 and 4, the averages for all of the items ranged from 1.50 (item 7) to 2.98 (item 18). The professional support dimension had a mean of 2.01 (SD = .53), as compared to 2.33 (SD = .72) for the worries dimension and 1.74 (SD = .64) for the prenatal preparation dimension.

Looking more closely at the responses given by the fathers to each item from a clinical perspective, we observed an important proportion of unfavourable responses (i.e. "somewhat true" or "not true at all" chosen for the normal items, and "partly true" or "completely true" chosen for the reversed items). Items with unfavourable responses were considered as such when the rate of these answers was above 20% (in bold in Table 1). Of the 12 items with unfavourable responses reported by fathers, seven belonged to the worries dimension, and five belonged to the professional support dimension (Table 1).

Comparing the responses between the two hospitals, only one item was statistically different: item 1, "I felt well informed", with somewhat true/not true at all representing 10/128 (7.8%) for Switzerland and 8/32 (25%) for France, $p = 0.011$. In total, 12% reported an unfavourable response for this item.

Factors influencing fathers' experiences of childbirth

Regarding the professional support dimension, the results show no correspondence between the predictors and the dependant variable, $F(8,125) = 1.55$, $p = .15$. Table 2 below details the results for all pf the predictors.

The results for the worries dimension show no correspondence between the predictors and the dependant variable, $F(8,125) = 1.4$, $p = .20$. Table 3 below shows the detailed results for all of the predictors.

Regarding the prenatal-preparation dimension, the results show a significant correspondence between the predictors and the dependant variable, $F(5,131) = 2.35$, $p = .04$). As detailed in table 4 below, the results were significant for antenatal education, $t(126) = -2.16$, $p = .03$, and level of education, $t(126) = -2.06$, $p = .04$.

Table 1
Descriptive analysis of the unfavourable responses for all the items in the FTFQ.

Items	N = 151 n (%)	Mean (SD)
Item 1: I felt well informed.	17 (11.3)	1.64 (.70)
Item 2: I felt well- prepared.	23 (15.2)	1.83 (.76)
Item 3: We were admitted to the maternity unit we had chosen.	10 (6.6)	*
Item 4: I felt welcome when I called the maternity unit.	2/62 answers	*
Item 5: I was treated well on arrival at the maternity unit.	5 (3.3)	*
Item 6: I felt I was given positive attention by the staff.	21 (13.9)	1.56 (.83)
Item 7: I was given enough information.	18 (11.9)	1.50 (.76)
Item 8: I was given guidance on how to support my wife/girlfriend.	37 (24.5)	1.86 (.97)
Item 9: There was some information I lacked.	55 (36.4)	2.89 (.96)
Item 10: There were situations I would rather not have gone through.	35 (23.2)	1.78 (1.01)
Item 11: I was worried about my wife/girlfriend.	101 (66.9)	2.84 (1.05)
Item 12: I was worried about the baby.	89 (58.9)	2.68 (1.09)
Item 13: I was worried that something would go wrong.	98 (64.9)	2.77 (1.03)
Item 14: I was worried that I wouldn't be able to provide support.	71 (47.0)	2.38 (1.08)
Item 15: I was worried about the unknown.	85 (56.3)	2.58 (1.05)
Item 16: I was worried about how I would react.	51 (33.8)	2.07 (.98)
Item 17: I felt that the midwives and other staff were interested in how I felt.	42 (27.8)	1.93 (.96)
Item 18: The staff offered to support my wife/girlfriend so that I could take a break.	101 (66.9)	2.98 (1.20)
Item 19: There were things that frightened me during childbirth.	24 (15.9)	1.56 (.90)
Item 20: I was hugged and comforted when I was upset.	29 (19.2)	1.80 (.97)
Item 21: I was shown how to hold the baby.	45 (29.8)	1.90 (1.09)
Item 22: I was encouraged to hold the baby.	29 (19.2)	1.62 (.97)

* These items are part of Premberg et al.'s FTFQ in Swedish. However, they were not validated for the French version of the test; therefore, their means were not calculated.

Table 2
Summary of the regression analyses for variables predicting professional support (model 1).

Factors	B	SE	β	R^2
Antenatal education	.12	.12	.09	
Mode of delivery	.10	.04	.23	.10
Level of education	.09	.06	.15	
Age	−.01	.01	−.13	
Origin	.05	.07	.07	
Professional pregnancy follow-up	.18	.11	.16	
Labour induction	.04	.10	.04	
Epidural analgesia during childbirth	−.20	.16	−.12	

Table 3
Summary of the regression analyses for variables predicting worries (model 1)

Factors	B	SE	β
Antenatal education	.14	.16	.08
Mode of delivery	.09	.06	.15
Level of education	−.13	.08	−.15
Age	−.01	.01	−.10
Origin	−.13	.10	−.14
Professional pregnancy follow-up	−.28	.15	−.19
Labour induction	.06	.13	.04
Epidural analgesia during childbirth	.12	.21	.05

Table 4
Summary of the regression analyses for the variables predicting prenatal preparation (model 1).

Factors	B	SE	β	R^2
Antenatal education	−.30	.14	−.19	
Level of education	−.15	.07	−.19	.09
Age	.004	.01	.03	
Origin	−.13	.08	−.15	
Professional pregnancy follow-up	.03	.12	.02	

Discussion

Numerous studies have focused on mothers' experiences of childbirth, without taking into account the fathers' experiences. The aim of the present article is to close these gaps in the literature by analysing fathers' experiences of childbirth. This study looked especially into fathers' experiences during two specific periods: the prenatal period and childbirth. The results show that fathers associated the experience of childbirth with many worries, while results linked to the prenatal experience were very positive.

Prenatal experience

The results related to antenatal education were very positive; more than half of the fathers reported feeling being well prepared. In looking at the fathers' responses to the FTFQ, importantly, the mean score obtained on the prenatal preparation dimension was very low, indicating that the fathers mostly felt well informed and well prepared. Moreover, regarding the variables predicting prenatal preparation, the results show a correspondence between the predictors and the dependant variable. More specifically, the results were significant for antenatal education and level of education. The literature suggests that future fathers need information about pregnancy and childbirth throughout the course of pregnancy (Deave & Johnson, 2008; Poh et al., 2014). However, most previous studies have only focused on the period of childbirth to evaluate the information given to fathers, always linking information and support from professionals. Indeed, most of these studies have found that fathers reported a lack of information and support during childbirth, making them feel excluded from health services (for a systematic review, see Baldwin et al., 2018). Thus, our article establishes important results regarding the information available during this specific period and emphasises an important difference between information during the prenatal period and support from professionals during childbirth.

In addition, more than half of the fathers in this study reported using one type of antenatal education and that when they used two means of education, these most often were participation in antenatal classes and information from family and friends. These findings are congruent with previous studies, suggesting that 90% of fathers in the USA participate in prenatal activities and often seek information and advice from their partners, parents, friends and colleagues (Poh et al., 2014). However, the literature provides no consistent results about antenatal classes, and the experience of them varies by study. While some studies have concluded that participants felt excluded in classes (Deave & Johnson, 2008), other studies have established that participants found such

classes useful and informative (Rosich-Medina & Shetty, 2007). Taken together, these results suggest that it seems to be important for fathers to participate in birth-preparation classes, but it is currently impossible to evaluate the effectiveness of these classes because the experiences are so different for each father.

Childbirth experience

The results related to childbirth show that the onset of labour mostly occurred spontaneously, that the main delivery mode was spontaneous vaginal delivery and that most mothers had epidural analgesia during labour. The fathers' responses to the FTFQ, especially in the worries and professional support dimensions, showed high mean scores, indicating that fathers reported many worries and low professional support. All of the unfavourable responses reported by fathers belonged to these two dimensions and represented a majority of the items (12/19). Moreover, the results for these two dimensions show no correspondence between the predictors and the dependant variable in predicting worries and professional support.

Regarding the worries dimension, a systematic review by Baldwin and collaborators (2018) reported similar findings, suggesting that fathers reported negative feelings and fears. These feelings and fears can be classified into five categories: fear of the unknown, feelings of helplessness, feeling pushed out of the relationship and struggling to find a role, fears related to labour and birth and concerns about their partner's and baby's well-being.

The literature provides ample information about the professional support dimension. One of the fathers' needs during childbirth is to be supported (Poh et al., 2014). However, literature shows that fathers feel excluded and unsupported by the healthcare system (Baldwin et al., 2018; Deave & Johnson, 2008; Poh et al., 2014; Vallin et al., 2019; Widarsson et al., 2012). These results are in congruence with our findings. They are all the more important because literature shows that receiving little or no professional support from a midwife during childbirth is linked to increased stress and anxiety for fathers (Poh et al., 2014) as well as increased feelings of helplessness (Johansson et al., 2012). In contrast, professional support is presented as an important factor for creating a positive birth experience (Hildingsson et al., 2011; Johansson et al., 2015; Vallin et al., 2019).

Strengths and limitations

Data reporting on fathers' experiences of childbirth are beginning to be better documented in the scientific literature but are still rare. This study contributes to increasing this knowledge, thus allowing better support for men throughout their fatherhood process. The experiences of 151 fathers were investigated, which is a good sample size for this type of study. A validated questionnaire with adequate psychometric properties was used, and each father's experience was evaluated at the optimal time for doing so after birth. The results of this study could initiate awareness among professionals and stimulate creativity to better support fathers throughout their fatherhood process.

However, this study has some limitations. It relates to data collected 5–6 years ago and might not be completely up to date. Another point is that the participants were from two hospitals located in two countries. Hence, even though these hospitals provided the same level of management for high-risk pregnancies and had the same annual birth rates and geographical proximity, we cannot exclude cultural effects or differences in local guidelines and protocols influencing the childbirth experience.

Conclusions and implications for the practice

Childbirth is a worrying experience for men. Implementing specific antenatal classes for first-time fathers could support the fatherhood process. In addition, the results suggest that professionals providing more support would allow fathers to experience childbirth in a more positive way. Training healthcare professionals and adjusting the postpartum pathway by including support for partners need emphasis. Further research could evaluate the best means for providing specific antenatal classes for fathers. A spectrum of actions by which men would feel more supported and included in the birth could be developed. Measuring the level of worries during the post-partum period would also be interesting.

Declaration of Competing Interest

The authors declare that they have no conflicts of interest.

CRediT authorship contribution statement

Jessica Franzen: Conceptualization, Data curation, Methodology, Writing – original draft. **Isabelle Cornet:** Data curation, Methodology, Writing – review & editing. **Françoise Vendittelli:** Conceptualization, Data curation, Investigation, Methodology, Project administration, Writing – original draft, Supervision. **Marie-Julia Guittier:** Conceptualization, Data curation, Funding acquisition, Investigation, Methodology, Project administration, Writing – original draft, Writing – review & editing, Supervision.

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Ethics

In accordance with the Swiss federal law on research on human beings (since 2014) and the French law on biomedical research (before November 2016), the study was exempted from a full review by the Ethics Commission because it carried a low risk for participants. See letter in annex please.

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.midw.2021.103153.

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