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A study of first time mothers' perception and their relation to the baby associated with how they responded to the "mother to infant relation and feelings"

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Mothers' perception of their relationship with their baby might affect sensitive parenting. This study aimed to explore first time mothers' feelings for and their relation to the baby associated with how they responded to the "mother to infant relation and feelings (MIRF) scale" as a step in the validation process of the scale. Interviews with ten first-time mothers, three days after birth, were performed, using open questions followed by questions directly from the MIRF scale items. An inductive and deductive approach inspired by the "Think aloud" method guided the study. Results describe main category; New mothers bewilderment and anticipation which contained four categories; Natural and great but mixed, Maternal instinct and kinship, Ability and expectations and Not yet for real. When mothers responded to MIRF scale items they describe talking to their baby which they did not in their open answers. Answering the MIRF scale helped mothers in differentiating between their own mixed feelings of becoming mothers and their relation to and feelings for the baby. The MIRF scale appears valid in reflecting important aspects of mothers' feelings for and relation to their baby. The MIRF scale could be used in research and when evaluating care routines as well as in dialogue with new mothers to support mother-to-infant interactions.

Key words: Maternal feeling assessment, becoming a mother, motherhood, childbirth, professional support, validity.

INTRODUCTION

Becoming a parent is a major life-changing event that affects the parents and their relationships in many ways (Cowan and Cowan, 2000). For mothers, this change can be happy, frustrating and stressful and the availability of support can influence how she will cope with the new situation (Raphael-Leff, 2005). The process of becoming a mother starts in pregnancy and comprises a new role that will affect her identity as well as her interactions with the baby (Mercer, 1986; 2004). This process is influenced by factors related to both the mother and the baby, including the mothers' age, birth experience, self-concept, availability of support, and the baby's health and temperament (Mercer, 1986; Emmanuel and John 2010). Becoming a mother is partly a skill acquired by learning and is not completely instinctive (BlafferHrdy, 2000; Mercer, 2004) but the mother has a readiness to care for and meet the needs of the baby (George and Solomon, 2008; Raphael-Leff, 2005). Her ability to act sensitively to the baby's signals and meet the baby's needs is influenced by her perception of the baby and their relation (George and Solomon, 2008). The mother's sensitivity to the baby's signals will facilitate the attachment process for the baby (George and Solomon, 2008). This process is important for the baby's emotional

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Abbreviation: MIRFS, Mother to infant relation and feelings scale.

and biological development (Raphael-Leff, 2005). To support the process of becoming a mother, a woman's individual needs must be met with support from her own network as well as support from professionals (Bäckström et al., 2010; Ekström et al., 2003b, Hupcey and Morse, 1997, Hertfelt-Wahn et al., 2007), especially during periods of forced separation from the baby (Nelson, 2003). Fowles and Horowitz (2006) describe in a review that mother to infant interaction would objectively be assessed by observation.They describe several validated instruments which have been developed for observation assessment. Their review also includes self-reporting instruments assessing satisfaction with the mothering role and infant care taking skills (Fowles and Horowitz, 2006). However how the mother perceives her relation to and feelings for her baby are important aspects influencing her sensitivity for the baby's signals (George and Solomon, 2008) and we did not find any existing scales that captured these aspects. Hence the mother-to-infant relation and feeling

(MIRF) scale was developed to assess mothers' self-reported relation to and feelings for her baby. The scale was developed to evaluate the effect of a process oriented training program aiming to improve professional support from antenatal midwives and postnatal nurses (Ekström and Nissen, 2006; Thorstensson et al., 2011). Initially, pilot studies and expert discussions were performed to establish face and content validity (Ekström and Nissen, 2006; Thorstensson et al., 2011). However, further validation is needed. This study therefore aimed to explore first time mothers' feelings for and their relation to the baby associated with how they responded to the

―mother to infant relation and feelings (MIRF) scale‖ items as a step in the validation process of the scale.

METHODS

For this study, a qualitative design with both an inductive and deductive approach was selected (Patton, 2002) inspired by the

―Think aloud‖ method (Drennan 2003). Validity of a scale is an ongoing process and a variety of methodological approaches should be used in order to understand what inference can be drawn from the scale (Streiner and Norman, 2008). Individual interviews were used for data collection to capture the direct voices of the mothers, an important factor when aiming to measure abstract phenomena (Bowling, 2005; Streiner and Norman, 2008). The interviews were performed using open questions followed by questions based on the MIRF-scale items described in the foregoing. This data collection method aimed to elucidate participants' perception (Drennan, 2003) about their feelings for and relation to their baby and their reflections on the items of the MIRF scale. The data were analyzed using both inductive and deductive qualitative content analysis (Elo and Kyngäs, 2008).

Description of the MIRF scale

The MIRF scale consists of two parts: The mothers' perceived relationship to the baby and the mothers feelings for the baby. The mothers perceived relationship to the baby was assessed with a question about how the relation to the baby was perceived followed by seven items constructed of opposing statements: ―I talk a lot with my baby/I do not talk at all with my baby,‖ ―I enjoy resting when my baby is with me/I enjoy resting when my baby is with someone else,‖ ―I enjoy breastfeeding/I do not enjoy breastfeeding,‖ ―I feel that my baby is my own/I do not feel that my baby is my own,‖ ―I know what my baby wants/I do not know what my baby wants,‖ ―My baby is more beautiful than other babies/My baby is not as beautiful as other babies,‖ and ―My maternal feelings are very strong/My maternal feelings are not very strong.‖ The Mothers feelings for the baby was assessed with a question about how the contact with the baby was perceived and was followed by seven items constructed of opposing word pairs such as ―warm/cold,‖ ―secure/insecure,‖ ―close/distant,‖ ―confident/unconfident,‖ ―stable/unstable,‖ ―easy/ difficult,‖ and ―pleasant/unpleasant.‖

The mothers were asked to grade their perception on a 7th-grade scale that was occasionally reversed in order to avoid routine like response (Polit and Beck, 2004).

Setting

The study was performed in the Southwest of Sweden in a hospital that records approximately 3200 births per year and serves urban, suburban, and rural districts. Mothers with both complicated and uncomplicated pregnancies are admitted to the delivery ward when in labor and they are usually moved to the maternity ward approximately two hours after birth. At the maternity ward, mothers with a complicated birth will more often have a private room. If possible, the father is offered a stay with the mother and child in the ward. In most cases, first-time mothers leave the hospital within 72 hours after birth.

Sample

To ensure variation, a purposive sampling strategy was adopted (Patton, 2002; Polit and Beck, 2004) considering age, education level, and type of birth. The inclusion criteria were first-time mothers with a full-term pregnancy and that the baby should be one- to three days old. Mothers with life-threatening diseases or who gave birth to children with life-threatening diseases or malformations were excluded. Ten first-time mothers were interviewed varying in age from 18 to 40 years and education; six mothers had university education and four mothers had secondary school education or less. Five mothers had normal vaginal births, two mothers had complicated vaginal births, and three mothers had caesarean births. Their babies' age ranged from 1.5 to 2.5 days; six were boys and four were girls. All ten mothers were living with the baby's father.

Data collection procedure

Access to the informants was gained through a midwife at the maternity ward. Mothers who met the inclusion criteria and who fulfilled the purposive sampling criteria were approached by this midwife. She informed the mothers about the study, both in written and verbal forma and asked for their consent to participate in the study. Thereafter, the mothers were contacted by the first author (ST) who provided more details about the study and encouraged the mothers to ask more questions. Before the interview started, the mothers filled in a written consent form. The interviews were conducted by the first author (ST) at the maternity ward in a private room, either the mothers' own room or in an office were the interview could be held in private (Kvale, 1997). The interviews were digitally recorded and all the recorded interviews were transcribed verbatim before analysis. Data were collected from December 2009 to January 2010.

Table 1. Overview of main category and subcategories.

New mothers' bewilderment and anticipation
Natural and great but mixed
Maternal instinct and kinship
Ability and expectations
Not yet for real

To create a relaxed atmosphere, the interview started with a general open question about becoming a mother. After this, two specific questions were asked: *Describe your relationship with your baby* and *describe the feelings you have for your baby.* These open questions were followed by questions aiming to encourage the mothers to freely elaborate on the description of their experiences.

After the open questions, the mothers were asked to answer the MIRF scale, during which time the recorder was turned off. After the mothers finished responding, the recorder was turned on again. The interviewer asked about the mothers' overall experience in answering the MIRF scale; subsequently, the mothers were asked about their thoughts on each item and why they answered each question the way they did. When necessary the mothers were further questioned to encourage them to elaborate on their description.

Data analysis

For the open questions, an inductive qualitative content analysis was used (Elo and Kyngäs, 2008) to explore the direct experience of the mothers. The analysis started with reading the transcripts of the open questions repeatedly to get a sense of the whole. Next, the text was read thoroughly, highlighting relevant parts in the text. In the margin of the text notes or codes were made that captured the mothers' feelings for and relation to the baby. These codes were derived close to the text. Working through the data, efforts were made to limit the codes as much as possible and new codes were created when necessary so that all relevant parts of data would fit into a code. When all data from the open questions were coded, the content of each code was examined and compared to other codes, and categories were identified. Finally, the identified categories were examined to identify how they were related as presented in the main category. During the analysis, transcripts, codes and categories were discussed and reflected on for comparison and validation, with the other authors.

Regarding the answers to the MIRF-scale items, a deductive qualitative content analysis was used (Elo and Kyngäs, 2008). The mothers' answers for each item were read through and analyzed to understand their thoughts for each item, and the meaning of each item was identified. When answers from mothers to the MIRF scale items were lower or higher their individual description of these MIRF scale items was analyzed (Table 1). This procedure allowed for comparison in order to understand what inference could be drawn (Streiner and Norman, 2008) from the different items of the MIRF scale. Finally the results from the inductive and deductive analyses were compared to identify their coherence.

Ethical considerations

The ethical approval for this study was obtained from the Regional Ethics Committee of Gothenburg before beginning data collection.We were aware that there could be an ethical problem interviewing first-time mothers close to birth since this is a delicate period for them and their relation to the baby. However, in the event of such a problem, appropriate professionals at the maternity ward would have been contacted. The written information provided to the mothers also contained information on whom they could contact in such cases. The mothers were also informed that they could decline to continue with the interview at any time, without giving a reason. Some mothers did not consent to participating in the study. When declining, most often, no reason was provided, but one reason mentioned was that they did not want to be disturbed.

RESULTS

The open questions

The main category described; New mothers bewilderment and anticipation. The mothers described an overall situation of overwhelming feelings that were Natural and great but mixed. What they felt for the baby was both self-evident and contradictory at the same time. This situation is derived from wanting to protect—Maternal instinct—and feeling connected to—kinship—the baby. There is an anticipation to become a mother: they long for it but hesitate to engage in it at the same time.This new life as a mother is unknown to them but is also related to their feelings of Ability and expectations. This is based on their sense that it is Not yet for real, which stems from them not having experienced life in their home with this new member of the family and in their new situation, of not really knowing what life as a mother or as parents would be like. All this creates a slightly chaotic situation that is bewildering (Table 2).

Natural and great but mixed

This subcategory described emotional chaos and contradictory feelings for the baby. It included thoughts such as having this baby was the greatest thing that had happened to them, described as feelings of love, warmth, and happiness but also as feelings of worry, tension and nervousness in relation to the vulnerable baby. Feelings of warmth were described in both physical and emotional contexts, and there was an immediate feeling of closeness and great love.

…so I had one of those… then I did not really know what feelings...it just sort of bubbled within me so I had to keep myself from crying for hours (she laughs)... Another response was that it was unbelievable to have been a part of this creation, a baby so delicate and vulnerable and who need them so much. But this vulnerability was also worrying and that felt awkward. At the same time, mothers were astonished by the ability of their baby.

… and I tried to give her as much room in the bed as possible and the baby she is just over one day old then…and…and…(She) comes after…that is…she moves even though she is not supposed to be able to crawl or to move anywhere…

Table 2. An overview of the results from the semi-structured questions and the mothers' description of their perception of the MIRF-scale items.

Scale items	Range (n = 10)	Mothers' described perception of the item	Low-score responses	High-score responses
I talk a lot with my baby	3–7	Seeking a contact with and perceiving a response from the baby but not just verbally.	Lack of response from the baby or using skin-to-skin contact.	Talking a lot to the baby also before birth, to establish contact.
I enjoy resting when my baby is with me	2–7	Having the strength to accept responsibility of the baby and to be able to rest despite that responsibility.	Being torn between the idea of wanting the baby close by and needing to rest without having responsibility of the baby.	Feeling most at ease when the baby is close because they can feel that the baby is well.
I feel that my baby is my own	3–7	Feeling connected to and recognizing the baby.	A feeling of uncertainness if the baby was your own and not being able to care for the baby yourself.	It is self-evident that the baby is their own because the baby is known to them.
I enjoybreastfeeding	3–7	Being close to the baby and to offer the baby food.	That breastfeeding is not yet working as expected for several reasons.	Even if it hurts they enjoy breastfeeding, being close to the baby, and they expect breastfeeding will work.
I know what my baby wants	3–6	An ability to and expectation to be able to interpret the baby's needs in the right way and in all the nuances.	Not quite being able to meet the needs of the baby, and not having learned how to interpret the baby's signals as expected.	Feeling able to interpret the baby's signals even if it is difficult to be sure. when the baby do not speak
My baby is more beautiful than other babies	5–7	Your own baby being unique and special to you.	Not knowing if your baby really is more beautiful than other babies or about not wanting to admit being partial.	Self-evident that their own baby is special and most beautiful of all babies.
My maternal feelings are very strong	4–7	Strong feelings of wanting the best for the baby and wanting to take care of and to protect the baby.	Not experiencing full responsibility of the baby whilst still being at the maternity ward, resulting in a sense of uncertainty.	Experiencing strong feelings of wanting to protect and care for the baby and wanting the best for the baby.
Insecure/secure	6–7	Feeling secure in oneself and in relation to the baby.	Not applicable	Feeling secure in oneself and in relation to the baby.
Cold/warm	7	A warm physical feeling of love for the baby.	Not applicable	A warm physical feeling of love for the baby
Not confident/confident	5–7	A practical as well as an emotional confidence in relation to the baby and of being able to care for the baby.	Unconfident due to the situation being newor not yet being able to care for the baby as expected.	Being sure of an emotional connection with the baby but also about handling the practical tasks.
Difficult/easy	3–7	Getting in contact with and getting a response from the baby and to have the physical ability to meet the baby's needs.	Having difficulties in understanding the baby's signals or being physically unable to meet the baby's needs.	Perceiving that there is a response from the baby and the baby wanting to be near you.

Table 2. Contd.

Unstable/stable	5–7	Trust, about knowing how and being able to practically handle and to understand the baby.	Not feeling that you understand the baby and that the baby trusts you, and not being able to care for the baby as expected.	Feeling stable as a person, having an emotional contact, and perceiving that the baby trusts you.
Distant/close	6– 7	Connectedness, that the baby is part of you and about understanding the baby.	Not applicable	Connectedness, that the baby is part of you and about understanding the baby.
Unpleasant/pleasant	6–7	A contact with the baby being simple, self-evident, relaxed, and calm.	Not applicable	A contact with the baby being simple, self-evident, relaxed, and calm.

Their baby was described as different from all other babies, but they felt uncertain not knowing what becoming parents would mean. It was described as feelings that were natural and great, not strange but mixed.

Maternal instinct and kinship

This sub-category described feelings of being connected to and wanting to care for and protect the baby. It was described as kinship with the baby and that the birth was something they had done together with the baby. Mothers described being prepared to do everything to protect the baby.

… I think I could…I could kill for her, easy…no problem...if I felt threatened enough…I am not a killing type normally but (she laughs)…but this little creature…I could do anything (says with a tender voice)…anything…

These feelings made it difficult for mothers to leave the baby with anyone else, sometimes, even to the baby's father. It was described that they wished the best for the baby and thus neglected their own needs. Their relationship with the baby was described as something that would be life-long and that it grew when they spent time together. The baby resembled themselves or their partner in looks or behavior, and they had an intuitive feeling of knowing what the baby was feeling. They described their feelings as strong because the baby was part of themselves and therefore they felt that they had started bonding.

Ability and expectations

This sub-category described the experience of and expectations for the perceived ability in relation to their baby from both an emotional and a practical perspective. It was described as expecting to feel incredible love for the baby and expecting the baby to love them back. There was pride in their own ability of giving birth to a healthy baby. The initial few days after birth were occupied with their practical ability—how to hold and how to console the baby. Feeling insecure in their practical ability could have stemmed from having no experience in caring for babies, even though many things felt natural. In contrast, having experience in taking care of children promoted a feeling of security.

… I have not learnt so many of his signals yet but that will come, it will…he is only two days old so…no but…he gets quiet when he comes to me and so on…and I know since before…yes…by experience from (a) younger sibling and such (on) how to pacify a child so to speak…

This new situation inflicted uncertainty, and it was described as fearing that they would not be able to act accurately. When not being able to care for the baby, they described that it had a negative impact on their developing relationship.

… It does not feel as if we have so much of a relation since I had a caesarean so I have not been able to care for him in the way as you would…

But when being able to care for the baby, it was described that their engagement increased. They mentioned that breastfeeding was still not working as expected, which was worrying, and that it was difficult to be able to cope, considering the exhaustion that accompanies childbirth. When their ability to care for the baby increased, after.

some rest, they described feeling more certain. The professionals at the maternity ward were regarded as a safety net since the mothers were free to seek advice whenever needed

Not yet for real

This sub-category described feelings of surrealism, affected by not being at home. Giving birth to this baby was very unreal even after two days. It did not help to have been pregnant for nine months it was still difficult to understand, even though the baby was born. Remaining in the maternity ward and not taking full responsibility for the baby contributed to this unreal feeling. It was difficult to understand that the baby was not somebody else's, and it felt strange to imagine coming home with this baby that was supposed to live with them.

well, so I think it will be a strange feeling when one gets home (is emphasized) when one puts down the baby car seat on the floor… well what are we going to do with this thing then? Shall we eh where shall we put him?… or you know…// so it is probably very… but I think it will all fit into place rather quickly once… we are at home I think…

There was a strong reliance that this surreal feeling would sort itself out once they were home and then all would become for real.

Questions based on the MIRF-scale items

An overview of the mothers' responses to each item on the MIRF scale items is presented in Table 1. In relation to the MIRF scale items mothers describe strong but mixed feelings for the baby together with feelings of wanting to care for and protect the baby. Their perceived ability to care for the baby is also reflected in the answers. As an example the item ―I feel that my baby is my own‖ is overall described as ―Feeling connected to and recognizing the baby‖. Mothers answering low to this item describe ―A feeling of uncertainty if the baby was your own and not being able to care for the baby yourself‖ and Mothers answering high to this item describe ―It is self-evident that the baby is their own because the baby is known to them‖ (Table 1). Scoring low on the MIRF scale items reflected more uncertainty in relation to feelings for and relation to the baby and to their own feeling of competence than scoring high (Table 1).

Coherence between open questions and questions based onthe MIRF scale items

When assessing coherence between the open questions and the questions based on the MIRF scale items the overall descriptions were compared. The categories and sub categories identified from the open questions describe strong but mixed feelings together with wanting to care for and protect the baby and feeling uncertain about their ability. The identified meaning from the questions based on the MIRF scale items reflect the same mixture of feelings and feelings of wanting to protect the baby combined with uncertainty related to their own ability (Table 1). However, in the open questions, mothers described being astonished about the baby's ability, and this was not reflected in their answers to the MIRF-scale items. In the questions based on theMIRF scale items the mothers describe talking to their baby but the mothers did not mention talking to their baby in the open questions. Overall, it seems as when mothers answered the questions related to the MIRF scale items it helped them to differentiate between their own mixed feelings of becoming mothers and their relation to and feelings for the baby. Nevertheless an overall coherence between the open answers and the answers to the MIRF scale items was found.

The MIRF scale was constructed using opposing statements and opposing words. For the mothers, the opposing statements seemed easy to relate to and define in between. In the case of the opposing words, the mothers occasionally had difficulties in differentiating between the words, and the words seemed to overlap with each other. Overall, the mothers found the scale easy to understand and to answer, although the answer in itself was occasionally difficult to describe. They mentioned that it felt good to reflect upon the different perspectives that the MIRF scale items presented.

DISCUSSION

The results of this study showed coherence with the mothers' answers to the open questions and what the mothers described to the questions based on the MIRF-scale items. When answering the open questions, the mothers seemed more oriented toward themselves in their new role than when answering the questions based on the MIRF-scale, for which they seemed more oriented toward their relationship with and feelings for the baby. As if answering the MIRF scale items helped mothers to concretize their relation to and feelings for the baby. Scoring lower on the MIRF scale items reflected more uncertainty in the relationship with and feelings for the baby and to their own feeling of competence, when compared to scoring higher.

In the open questions the mothers describe that not being able to care for the baby had a negative impact on their relationship and that caring for the baby increased their engagement. In the questions based on the MIRF scale items (Table 1) in this study it was also reflected that it was in relating to and caring for the baby that the bond of affection was strengthened. However, some mothers were not able to physically care for their baby or they were unsure in caring for the baby and this seemed to inflict uncertainty. Mercer (1986; 2004) points out that

the process of becoming a mother starts during pregnancy and is intensified at birth. Being limited in caring for the baby might delay this process (Mercer, 2004). Professionals need to use creative ways to support mothers, especially when they were vulnerable, for example, after a caesarean birth, to make them feel that they could care for their baby. However, mothers also need to recover from birth (Mercer, 1986; 2004), calling for a delicate balance from professionals in meeting the individual needs of mothers and their babies.

The mothers' descriptions in our study revealed that meeting the needs of the baby and having to neglect their own needs was occasionally difficult to handle. Previous research shows that it is important for professionals to be sensitive to a mother's uncertainty and to encourage her engagement with the baby (Nelson, 2003) and to talk to mothers about mixed feelings being natural in this major life-changing event to parenthood (Cowan and Cowan, 2000; Raphael-Leff, 2005). Similarly, it is important for professionals to support mothers in the contact with and response from their baby since these are important aspects of becoming a mother (Mercer, 2004).

In the open questions, the mothers did not describe talking to the baby, even though it reflected contact and response. The mothers who scored lower on the MIRF scale item ―*Talking to the baby"* described for example, not being able to understand the response from the baby. However, a high score on this item reflected talking to the baby already during pregnancy to establish a contact (Table 1). Wanting to establish a contact before birth could be an indicator for ease of establishing a relation-ship with the baby after birth (Laxton-Kane and Slade, 2002), suggesting that this item reflected important aspects of a mother's relationship with her baby. In the open questions, mothers expressed astonishment over the abilities of the baby, despite the baby being only a few days old. This is not described in the questions based on the MIRF-scale items. Since feeling competent in caring for the baby is important for the becoming a mother process (Mercer, 1986; 2004), this might be one important developmental area in the MIRF scale. The item ―*I enjoy breastfeeding*‖ reflected mothers' commit-ment and their expectation that breastfeeding would work as well as uncertainty since it had been more difficult than expected (Table 1). This is in line with another study showing that confident commitment and realizing that breastfeeding is a learned skill appears to be important in breastfeeding success (Avery et al., 2009). Breastfeeding is an important social activity for the mother and her baby (Mozingo et al., 2000) and can strengthen their relationship. A mother's self-confidence and self-image in feeding are important aspects of her emotional wellbeing in the initial days after birth (Ball, 1994; Bryar, 1995). Mothers in the present study described that it was sometimes difficult for them to leave their baby with someone else. Nevertheless, the item ―*I rest better when my baby is with me"* was responded with some mothers acknowledging the difficulty in feeling torn between the wish to be close to the baby and a hesitation to neglect their own needs, that is, sleep. The thought of this responsibility was also somewhat frightening (Table 1). Earlier research shows that it is important when meeting the needs of the baby to have a wish to avoid separation and wanting to understand the baby, even if this means neglecting one's own needs (George and Solomon,
2008). This implies that the MIRF scale items reflect both the necessary acceptance of responsibility but also the hesitation that can be apparent at this time, early after birth.

The coherence between the open questions and the questions based on the MIRF scale items indicate that the MIRF scale items has content validity, reflecting important aspects (Streiner and Norman, 2008; Bowling, 2005) of first-time mothers' feelings for and relation to their baby some days after birth. The mothers in this study found the MIRF scale easy to understand and easy to answer, which is another aspect of content validity (Bowling, 2005). Important for the validity of a scale is the possibility to assess the phenomenon the scale is aiming to measure (Streiner and Norman, 2008; Bowling, 2005).

The mothers' answers to the MIRF scale items seemed to reveal perceived certainty associated with feelings for and relation to the baby (Table 1), suggesting that the
MIRF scale could assess important aspects of mothers' feelings for and relation to their baby. The mothers in this study found it easier to distinguish between the different statements in the first part of the MIRF scale items than between the opposing words in the second part. However, several opposing words in the second part seemed to reflect uncertainty in the mothers' perception in feelings for and relation to the baby or their own sense of competence. These are important aspects of becoming a mother (Mercer, 1986; 2004), indicating that all MIRF-scale items would be useful in research. n the other hand, perhaps the statements in the first part of the MIRF scale would be more helpful for professional support. Using these different items in a dialogue with mothers could help the mothers reflect more directly on their relationship with and feelings for the baby, increasing sensitivity to the baby's signals.Our sample size was limited to ten first-time mothers from the Southwest of Sweden and this could be considered a weakness of the study. However the mothers varied in age, education level, and type of birth, and this would strengthen the trustworthiness of our results (Polit and Beck, 2004; Patton, 2002). A strength of the study was the mixed approach that also was inspired by the ―Think aloud‖ method (Drennan, 2003).Using both open questions and questions based on the MIRF scale items proved valuable and made it possible to compare first-time mothers' spontaneous description of their relationship with and feelings for their baby to their answers on the MIRF scale. This procedure provided an opportunity to test if the questions based on the MIRF

scale items and the open questions were in coherence, which would strengthen our possibility to draw inference about (Streiner and Norman, 2008) first-time mothers' feelings for and relation to her baby, using the MIRF scale. When answering the open questions, the mothers seemed more oriented toward themselves, and the baby seemed to become the focus when answering the MIRFscale questions. Starting the interview with a question about the new experience of becoming a mother could be one reason for the mothers confusing their own experience in becoming mothers with their relation to and feelings for the baby. However, this period in life is described both in our result and earlier research as overwhelming and confusing (Mercer, 1986; 2004; Nelson, 2003), and the mothers seemed to have a need to talk about themselves becoming mothers in relation to feelings for and relation to their baby. In our study, all of the mothers scored high for some items (Table 1), which could be a threat to the sensitivity of the scale. Nevertheless, the mothers' descriptions of these items show that they reflect impor-tant aspects when assessing first-time mothers' feelings for and relation to her baby. However, further research is needed to elaborate on our knowledge and under-standing of mothers and fathers relation to and feelings for the baby during the first year after birth.

Implications for practice

When answering the open questions, the mothers seemed more oriented toward themselves as new mothers but when answering the MIRF scale, their relation and feelings for the baby seemed to become more in focus. This would indicate that the scale items could be used by professionals in dialogue with new mothers to support the mother-to-infant interaction and increase sensitivity to the baby's signals.

Conclusion

The results of this study showed that the Mother to infant relation and feelings (MIRF) scale appears valid in reflecting important aspects of first-time mothers' feelings for and relation to the baby some days after birth. However, the fact that mothers struggle in their new role was also evident in their answers and could be understood as one important aspect of their perception of feelings for and relation to their baby. The MIRF scale could be used in research and when evaluating care routines as well as in dialogue with new mothers to support mother-to-infant interactions.

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