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The Birth Satisfaction Scale-Revised (BSS-R): process of translation and adaptation in an Italian context

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Abstract

Introduction. The Birth Satisfaction Scale-Revised (BSS-R) is a tool to assess women's childbirth satisfaction. The aim of this research was to achieve the cross-cultural and conceptual equivalence of the BSS-R tool in Italian.

Method. The World Health Organization (WHO) method was adopted to achieve the BSS-R in Italian. This is a well-established method using forward-translations and back-translations. This process has been refined in the course of several WHO studies to result in five steps: forward translation, expert panel translation, back-translation, pre-testing and cognitive interviewing, final version.

Results. The forward translation step developed an Italian version of the BSS-R, this was revised by an expert panel. During the pretesting and cognitive interviewing step, 100 women were involved to check if the instrument was understandable and they did not report any difficulties to comprehend the questionnaire. Women repeated with different expressions and words items 1, 7 and 9. After a conceptual analysis of the sentences used by women during the debriefing stage, items 1 and 9 have been changed. At the end of the process, we had a final version of the questionnaire in Italian.

Discussion. The BSS-R should be a reliable instrument to be adopted by healthcare professionals, researches and managers in order to improve Italian maternity services with the aim to offer a positive experience of childbirth.

Key words

- birth satisfaction
- assessment
- birth satisfaction scale
- quality of care

INTRODUCTION

Although maternal and newborn mortality rate remain the main indicators to evaluate women's and neonatal health, in high-income countries they are extremely rare.

Further indicators should be established to evaluate and monitor the midwifery care to ensure that services provided are of high quality, achieving optimal standards of care [1, 2]. This appears particularly important within the Italian context where there is a high intrapartum interventions rate [3-5]. Quality indicators available in the literature allow measuring all dimensions of health, not only the physical wellbeing but also the emotional one and maternal satisfaction with care [6]. The WHO guidelines on a positive pregnancy experience [7] and Downe's study [8] have questioned what women want, alighting the importance of maternal satisfaction. Women's experience during the intrapartum period, and their level of satisfaction with the care they received, have gained increasing importance [7]. Maternal satisfaction is one of the standard of care defined by the WHO to improve the quality of maternity services and to evaluate the organization of Health Care Systems [9], [10]; it should be considered as one of the most relevant indicator within the midwifery field.

The meaning of birth satisfaction is diverse and may take on many forms [10]. Maternal satisfaction has often been defined using theoretical models of patients' satisfaction. The WHO [9] reported that satisfaction reflects the extent to which expectations of service standards have been met. A concept analysis by Larkin *et al.* [11] defined the birth experience as a complex psychological individual experience, with elements of universal physiological processes and life event significance. Among evidence there is consensus that the experience of labour and birth is complex and subjective [11]. A positive experience and satisfaction with birth can be influenced by expectations' fulfilment, staff characteristics including quality of care and support, involvement in decision making, woman centred care and women's perception of control [12-16].

Women appear to be satisfied when are in control over their birth process, are involved in their care and

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in decision-making; they value sensitive, respectful and shared relationship with healthcare professionals ensuring women-centred care [14, 15, 17, 18]. Furthermore, women's experience with birth could have long-term implications for woman and baby's health both physically and emotionally [19]. A positive birth experience is associated with long-lasting benefits, a good relationship with the newborn and a positive attitude towards motherhood that contributes to the woman's self-esteem and feelings of accomplishment [20, 21]. A negative childbirth experience can lead to many problems as postpartum depression [22], post-traumatic stress disorder [23], tendency to miscarriage, preference for caesarean delivery, negative feelings against baby, difficulty in adaptation to maternal role, longer interval between deliveries, breastfeeding difficulties [24,25], [26] and lower quality of life [27]. A Swedish study of 617 subjects found that 38% of women who had a negative birth experience did not have additional children, versus 17% of women reporting a positive experience ($p < 0.05$) [28].

As childbearing is one of the most common reason for accessing health facilities, planners, managers and health care providers should assess women's satisfaction with care to improve services [29, 30].

The concept of maternal satisfaction is therefore multidimensional and the process to achieve an effective assessment is challenging [31]. Women should have a voice within their maternity pathway and help services to better understand people's needs and expectations [32].

Research on women satisfaction with birth through a valid and reliable tool are limited, especially in Italy. For these reasons a suitable tool is needed. There are several instruments able to measure maternal satisfaction with the care received during childbirth within a hospital setting. A systematic review conducted by Nilver *et al.* [33] with the aim to identify and present validated instruments measuring women's childbirth experience, included papers providing 36 tools. Among these, two instruments have been used within the Italian context. A study by Bertucci *et al.* [34] adopted "The childbirth perception questionnaire" to assess women's perception of their childbirth experience. The original questionnaire was excluded from Nilver *et al.*'s review as the original paper does not present testing of psychometric properties, therefore this tool should be further evaluated. The Italian research by Mannarini *et al.* [35] aimed to evaluate birth experiences after both spontaneous and medically assisted pregnancy, focusing on indices considering the type of conception. Following a literature review authors developed an instrument called "Women's delivery experience measures". This tool composed by 18 items, was evaluated on a 4-point Likert-type scale by 98 childbearing women with both spontaneous and medically assisted conception. A many-facet Rasch measurement model (MFRM) was applied to investigate whether the birth perception differed between spontaneous and medically assisted conceiving women. The purpose of the current study is to offer a short instrument focused on the assessment of the intrapartum care experience, thus the "Women's delivery experience measures/MFRM" could not be considered as suitable. Considering the Italian context and the model of midwifery care provided, the BSS-R was evaluated as the most appropriate instrument to be culturally validated, in order to evaluate maternal satisfaction with birth. In Italy there is a lack of continuity of maternity care, women meet different professionals during their childbearing continuum and the majority of them get to know a midwife only at the time of labour and birth. For these reasons, it appeared particularly important to select an instrument focusing only on intrapartum care aspects. This could give the opportunity to assess the quality of the intrapartum midwifery care and to evaluate and implement quality improvement programs, in order to offer maternity services based on women's needs. The original Birth Satisfaction Scale (BSS) was a 30-item questionnaire [10, 36] developed and psycho-metrically validated in the United Kingdom. It is a quantitative measure examining women's satisfaction with labour experiences and outcomes. The BSS-R is a validated 10-item, self-report scale that was developed in United Kingdom by the same researchers who implemented the original BSS, with the same aim to evaluate women's satisfaction with birth [37, 38].

Although the BSS-R is a revised scale, it remains a reliable instrument, maintaining the three dimensions evaluated in the original questionnaire and it has been already culturally validated in other countries and contexts [39-41]. Three main themes that affect birth satisfaction are assessed throughout the Scale, which are: quality of care provision (this theme is underpinned by four sub-themes which are helping women to feel in charge of their labour, birth environment, support and relationships with health care professionals), women's personal attributes (this theme is underpinned by four sub-themes which are the ability to cope during labour, feeling in control, childbirth preparation and relationship with the baby) and stress experienced during labour (this theme is underpinned by seven sub-themes which are distress, obstetric injuries, receiving sufficient care, obstetric interventions, pain, long labour and baby's health) [10].

Participants' perceptions are measured using a series of simple statements with four-point Likert scales (4 = Strongly Agree; 3 = Agree; 2 = Neither Agree nor Disagree; 1 = Disagree; 0 = Strongly Disagree). Four of the items are reverse-coded (e.g., "I found giving birth a distressing experience"). The Scale could have a maximum score of 40, however no cut-off was established to evaluate women's satisfaction or dissatisfaction. This questionnaire could only compare birth satisfaction levels within a study sample. This revised questionnaire is easy and quick to administer and does not depend from the level of the maternity care provided by the Unit.

Quality, because of its subjective nature and intangible characteristics, is difficult to define. Healthcare service quality is even more complex to define and measure, due to distinct healthcare industry characteristics such as intangibility, heterogeneity and simultaneity [42]. Relevant outcomes of mother and newborn health focused largely on process and outcomes indicators, especially around labour and birth [2].

Satisfaction with services is a complicated outcome to measure [2] as it reflects the personal preferences of the individual, the individual's expectations, and the realities of the care received [31]. The importance of assessing satisfaction when evaluating maternity services means that Healthcare Systems should strive to set reliable and valid tools to measure it. The BSS-R seems to be a comprehensive, reliable and efficient tool, with multidimensional and psychometric characteristics able to evaluate maternal satisfaction with birth, considering themes which take into account also subjective perception of the quality of the care received.

The aim of this research was to achieve the cross-cultural and conceptual equivalence of the BSS-R, in Italian.

MATERIALS AND METHODS

The process of translation and adaptation of research instruments seeks to create different language versions of the English instrument that are conceptually equivalent in each of the target countries/cultures. The instrument should be equally natural and acceptable and should practically perform in the same way. The focus is on cross-cultural and conceptual, rather than on linguistic/literal equivalence only. A well-established method to achieve this goal is to use forward-translations and back-translations, recommended by the WHO [43], that was updated in 2016, which follows a rigorous process to ensure that cross-cultural and conceptual equivalence is maintained. This method involves 5 steps as shown in *Figure 1*: Forward translation; Expert panel; Back-translation; Pre-testing and cognitive interviewing; Final version.

Ethical approval was obtained from the hospitals' Ethical Review Board before entering the research sites and before conducting the study.

Forward translation. This task was performed by a midwife familiar with the terminology of the field covered by the instrument. This midwife was knowledgeable of the English-speaking culture but her mother tongue is Italian, she has also good interview skills. The translation focused on the conceptual and cross-cultural adaptation and interpretation rather than on literal translation, as well as on the need to use natural and acceptable language for a broadest audience, according to the WHO method. The score used in the Italian version preserved the same criteria adopted by the English one. This step produced a first translated version of the English questionnaire.

Expert panel. A bilingual expert panel composed by three midwives with experience in clinical practice, translation and research, was organized. The goal within this step is to identify and resolve the inadequate expressions/concepts of the translation. The expert panel may question some words or expressions and suggest alternatives. At the end of this step a second version of the Scale was developed.

Back-translation. An independent translator, whose mother tongue is English, without any knowledge of the questionnaire and who was not familiar with the midwifery field, converted the instrument back to English. The back-translation step should follow the same criteria of the forward translation one, the focus should be on the conceptual and cultural equivalence rather than the literal one. If particular problems occur, due to words or phrases that do not express the same meaning of the item in the original instrument, they should be addressed to the attention of WHO. This stage did not present any problem.

Pre-testing and cognitive interviewing. It is necessary to pre-test the instrument on the target population. The WHO method recommends that pre-test respondents should number 10 minimum for each question; the BSS-R is a 10-items scale, for this reason according to the WHO methodology, it was administered to 100 women, each woman answered to all the 10 questions. Pre-test participants should include individuals representative of those who will be administered the questionnaire. Women's inclusion criteria were: age between 18 and 45 years, different education and sign written informed consent prior to participating in the study. Women delivered at a Consultant-led Maternity Unit in Northern Italy with approximately 3000 births/year. A non-probability sampling was adopted, using a convenience sampling strategy to recruit the most readily available participants who meet the study's inclusion criteria within a month. The interviews were conducted on September 2016. The researcher described the study to all women, asked women to sign an informed consent and conducted an individual interview, lasted an average of 15 minutes each.

The questionnaire was administered within 10 days

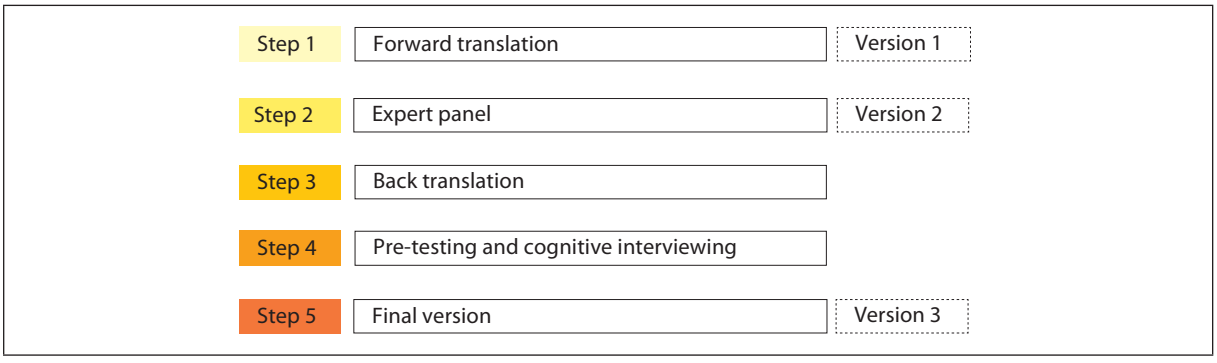

Figure 1
Process of translation and adaptation of instruments.

after birth, followed by a systematic debriefing. During the debriefing the researcher asked participants what they thought each question was asking. She asked if they understood all the words and expressions, if they could repeat the questions in their own words and if there were alternative terms that could be used. Furthermore, the researcher asked all women to answer to the questionnaire to enable the assessment of the internal consistence of the instrument. When alternatives words or expressions were used, participants were asked to choose which of the alternatives capture better their common language.

Final version: the interviews gave the opportunity to develop a third version of the instrument and the final questionnaire in Italian.

An internal consistency analysis was conducted to ensure that the measures satisfied the criteria for clinical and research purpose using the Cronbach coefficient alpha statistical procedure.

RESULTS

According to the WHO method, we went through the five steps previously described in the methods section.

The forward translation, developed an Italian version of the BSS-R questionnaire, using a simple and a clear language, according to the conceptual meaning, rather than the literal translation only. Common words and expressions were adopted in order to make the instrument easy to understand for people who are not familiar with the midwifery field.

During the second step the expert panel discussed on the translation of items number one, number six and number nine. They modified the questionnaire, and for the second version of the instruments, each aspect of discrepancies between the forward translation and the expert panel discussion, was resolved. Changes are shown in *Table 1* available online as *Supplementary Material*.

The Back-Translation step did not present any particular problem and all the items were easily translated back to English.

All 100 women enrolled in the study answered to all the 10 questions of the instrument and well understood the 10 items of the BSS-R. Women described the conceptual meaning of items one, seven and nine with alternative words and expressions. A semantic and content analysis was performed. All the interpretations they gave to repeat the above items of the Scale were reported into a database. They have been checked and compared by three midwives.

Item 1: "I give birth almost unscathed".

Women repeated the meaning of the Italian translation "illesa" of the english word "unscathed", using different words. All these words were classified based on meaning in five categories, five spheres and five intensity ranges. Among the 100 women, 26 of them, together with the category, added the dimensions of their interpretation, addressing the word "unscathed" to a psychological, an emotional or a physical consequence. From the total sample, 21 women described the category with an intensity range. Findings are shown in *Figure 2*.

Following the analysis of all expressions and words that women used to explain the term "unscathed", this word was replaced with the expression "without physical or psychological consequences".

Item 7: "I found giving birth a distressing experience".

Although the meaning of "distressing" was clear and well understood by 43% of the 100 women, 23% of the women's sample repeated this word using different concepts as shown in *Figure 3*.

Following the conceptual analysis the same expression proposed to women during the interviews was maintained.

Item 9: "I was not distressed at all during labour".

The meaning of "distressed" was well understood by 32% of women. The interpretation of "distressed" from the majority of the women's sample, 49%, was reported as "not struggling during labour". Other expressions to repeat "distressed" were used in 19% of cases, as shown in *Figure 4*.

Following the conceptual analysis, as most women used different expressions to repeat the word "distressed", further changes to the questionnaire were made.

Item 9 has been changed in: "I wasn't struggling at all during my labour".

At the end of the process, we had a final version of the questionnaire in Italian *(Figure 5,* available online as *Supplementary Material)*.

We found a Cronbach's alpha reliability statistic of 0.75, which is considered an acceptable threshold of internal consistency reliability.

DISCUSSION

This instrument measures women's perceptions of birth and is not limited to monitor whether the midwifery care received adheres to good practices or not. This could only be achieved using a reliable psychometric instrument [37] taking into account that women construct their birth experience differently. Views are directed by personal beliefs, reactions, emotions and reflections [10] and a positive experience for a woman could be the opposite for the healthcare professionals.

When the questionnaire has been administered, all women understood the 10-item Scale, they used different words and expressions to repeat the conceptual meaning of items one and nine only. It is of interest that both items are related to the themes "stress experienced during labour" as described into the original version of the Scale. This theme is underpinned by several subthemes, which effect the birth satisfaction, such as receiving an obstetric intervention, or the amount or type of pain experienced [10]. This reminds to the consideration that birth satisfaction is a complex, multifaceted and retrospective construct [40].

Women define an imprecise collage of their experience, including their personal background, attitudes, expectations, emotions and reflections contributing to reward their birth experience differently and this could affect their satisfaction with birth [10, 44]. The instrument was developed to evaluate also maternal dissatisfaction with care as reported for example in item two and seven of the Scale [10]. Both of these items could assess women's negative perception of their childbirth experience.

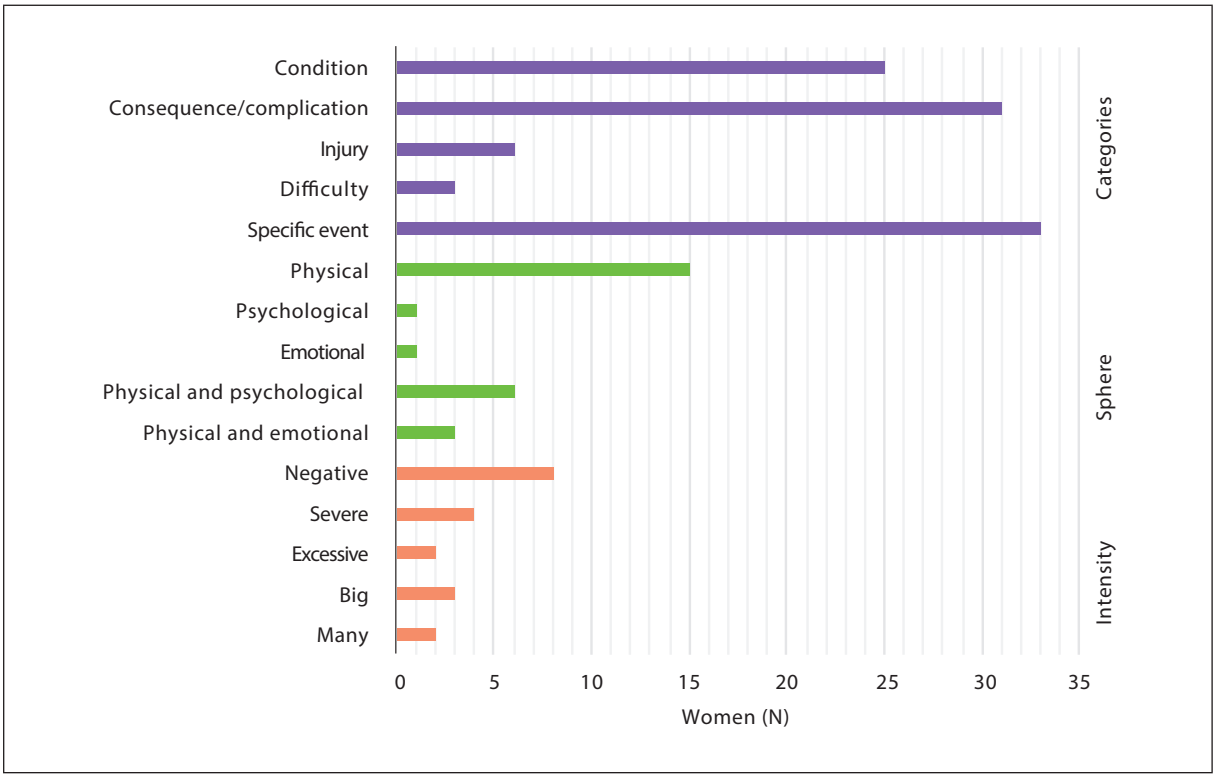

Figure 2
Interpretation of "unschated" - Item 1.

The members of the expert panel discussed on the same items of the questionnaire that women repeated differently, confirming the difficulty to translate "unscathed" and "distressed" with a single word. It is likely due to the knowledge that both expressions take into account different themes and dimensions. A further possible explanation is that the Italian translation of the two words does not appear to remind the same conceptual meaning and needs more words or different expressions for the cultural adaptation. For these reasons, items one and nine were changed. Both items needed an expression and not a single word for the final Italian version of the instrument.

To our knowledge this is the first Italian study to achieve the cross-cultural and conceptual equivalence of an instrument, which enables to assess the quality of the intrapartum midwifery care. This instrument could be of particular interest in Italy when considering the

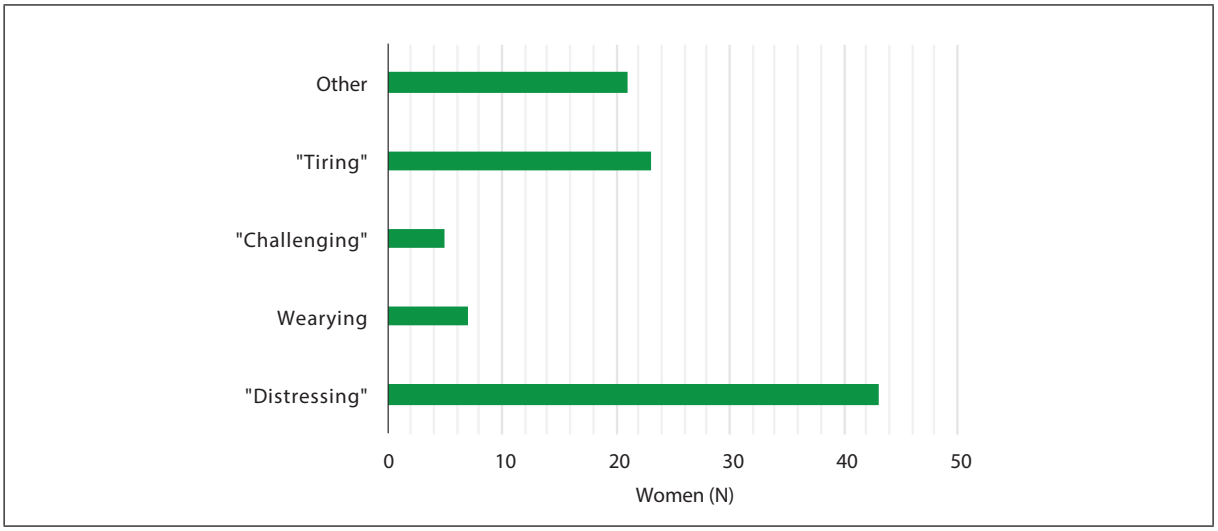

Figure 3
Interpretation of "distressing" - Item 7.

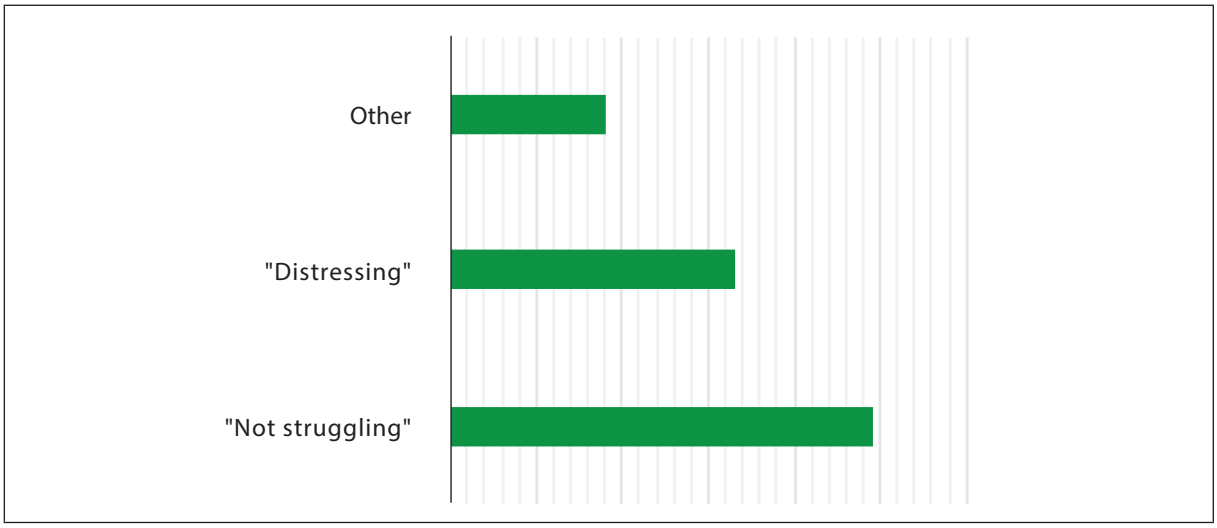

Figure 4
Interpretation of "distressed" - Item 9.

Guidance developed by the Italian Ministry of Health, which suggested to provide new models of midwifery care with the aim to offer different birth settings for low risk women. These settings, called alongside midwifery units, are situated within a hospital complex that has an existing Obstetric Unit [45], they are home-like environments where a midwife-led care is provided. Evidence [46] suggests that women who use them have better health outcomes and express high levels of satisfaction. The Italian BSS-R is an available instrument ready to be used to evaluate women's satisfaction with birth also in midwifery units. Furthermore the questionnaire was not only easy and quick to administer, but it was also simple to understand by participants, for these reasons it should be broadly adopted within maternity units. This will give the opportunity to compare maternal satisfaction in different settings in order to evaluate whether organizational aspects could influence women's satisfaction and to identify elements that could improve women's experience of birth.

The current study used the WHO method to achieve the cross-cultural and conceptual equivalence of the BSS-R tool in Italian, which recommends to adopt a minimum of 10 women per question to culturally adapt an instrument to a different culture. However a recent study suggested a sample size estimation for validation studies of this instrument [47].

This study is not without limitations. Due to the aim of the research, the instrument has not been administered with the purpose to evaluate women's satisfaction with birth that could strengthen the study, this step will be further developed in future researches. The Italian BSS-R should be taken into account in order to implement and improve maternity healthcare services, mothers' views and expectations [48]. To guide decision-making and monitor performance, a regular assessment of midwifery care and women's satisfaction is needed to achieve continuous quality improvement [9]. The current study offers therefore a transcultural adaptation of the BSS-R also in Italy as already demonstrated in other cultural settings [37, 38], this could be an opportunity to improve maternity care services also in our context.

CONCLUSION

Research regarding birth satisfaction is limited, but the literature considers maternal satisfaction as one of the most relevant indicator to measure the quality of the maternity services [9].

Woman's satisfaction with birth is not only an indicator of quality of care but it could be also important to evaluate women who needs a deep debriefing of their experience and a potent indicator of perinatal mental health outcome [40].

The identification of birth dissatisfaction aspects could help even more healthcare professionals to improve their care and could support managers in the effective allocation of midwifery staffing [10]. In terms of impact, the BSS-R can be requested for use by researchers to collect data nationally, with findings potentially correlated with other measures (e.g. pain and/or depression scales).

This instrument could be used also by healthcare professionals and policy makers to evaluate services provided and improve the quality of midwifery care [48] and thus the experience of women and their families at this important time in their lives [49]. As demonstrated by Martin *et al.* [50], the BSS-R could be adopted to develop a birth satisfaction indicator. Maternal satisfaction is a quality indicator that should be introduced within National Surveillance Systems and should be considered a direct measure of the quality of maternity care.

Conflict of interest statement

There are no potential conflicts of interest or any financial or personal relationships with other people or organizations that could inappropriately bias conduct and findings of this study.

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