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How does delivery method influence factors that contribute to women's childbirth experiences?

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ABSTRACT

Background: whether delivery method influences factors contributing to women's childbirth experience remains debated.
Objective: we compared subjective childbirth experience according to different delivery methods.
Design: this study used a cross-sectional design.
Setting: the setting comprised two university hospitals: one in Geneva, Switzerland and one in Clermont-Ferrand, France.
Participants: a total of 291 primiparous women were recruited from July 2014 to January 2015 during their stay in the maternity wards. The mean age of the participants was 30.8 (*SD*=4.7) years, and most were Swiss or European (86%).
Methods: the 'Questionnaire for Assessing Childbirth Experience' was sent between four and six weeks after delivery. Clinimetric and psychometric approaches were used to assess childbirth experience according to delivery method.
Measurements and findings: the mean scores of the four questionnaire dimensions varied significantly by delivery method. *'First moments with the newborn'* was more negatively experienced by women from the caesarean section group compared to those who delivered vaginally ($p < 0.001$). Similar results regarding the dimension of *'emotional status'* were also observed, as women who delivered by caesarean section felt more worried, less secure, and less confident (p=0.001). *'Relationship with staff'* significantly differed between groups (p=0.047) as more negative results were shown in the 'unexpected medical intervention groups' (i.e. emergency caesarean section and instrumental delivered vaginally). Women's *'feelings at one-month post partum'* in the emergency caesarean section group were less satisfactory than the other groups. Delivery method and other obstetric variables explained only a low proportion of the total variance in the global scores (R^2 *adjusted*=0.18), which emphasized the importance of subjective factors in women's childbirth experience.
Key conclusions: a comparison of best expected positive responses to each item (clinimetric approach) showed useful results for clinicians. This research indicated that delivery method influenced key factors (psychometric approach) of the childbirth experience.
Implications for practice: delivery method should not be considered alone and health professionals should focus on what is important for women to foster a more positive experience. In addition, women who have had an emergency caesarean section require special attention during post partum.

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Introduction

Psychological aspects of the childbirth experience are increasingly being considered by health practitioners and researchers in obstetrics. Particularly, women's view and feelings about their delivery experience are now recognized as an important patient outcome that is essential to evaluate. The relationship between perceived delivery experience and the occurrence of pathological consequences on women's psychological health has been studied. A negative delivery experience has been shown to have psychological implications such as a feeling of maternal distress and disempowerment (Emmanuel and St John, 2010), post partum depression (Zaers et al. 2008; Gürber et al., 2012; Shlomi Polachek et al., 2014), and post-traumatic stress disorder (De Schepper et al., 2016; Garthus-Niegel et al., 2013; O'Donovan et al., 2014). These unfavourable consequences may compromise subsequent pregnancies (Gottvall and Waldenström, 2002; Nilsson et al., 2010; Størksen et al., 2013) and may have negatively affect mother-infant attachment and the infant's development (Kingston et al., 2012).

Women's delivery experience assessment should not be the sole indicator to evaluate their satisfaction about the quality of perinatal care; rather, research should examine what is important for women to increase the probability of a positive experience. Multiple interrelated factors contributing to the construction of the delivery experience have been described including perceived control, support, and the relationship with the caregiver (Larkin et al., 2009).

The importance of delivery method and its influence on the childbirth experience remains much debated. Some authors have hypothesized that delivery method does not influence women's experience or post partum mental health (Adams et al., 2012; Spaich et al., 2013). Conversely, others studies have shown that delivery method is the most relevant predictor of delivery satisfaction (Bryanton et al., 2008; Shorten and Shorten, 2012). In recent years, the worldwide rising incidences of caesarean section (CS), especially elective CS in industrialized countries, has fuelled the debate about the effects of delivery method on women and infants (Roberts and Nippita, 2015). Inconsistent results have been revealed as some studies have shown vaginal delivery is favourable (Bryanton et al., 2008; Crowe and von Baeyer, 1989), while others have shown that elective CS is favourable (Blomquist et al., 2011), or even that there is no difference (Rijnders et al., 2008; Spaich et al., 2013; Ulfsdottir et al., 2014).

Assessment of delivery experience is complex and existing instruments have some differences. Most studies focused on women's experience with regard to their global satisfaction with the quality of care during delivery (Rudman et al., 2007). However, the definition of satisfaction seemed an inappropriate way to reflect women's perceptions about the delivery experience (Proctor, 1999). Moreover, unidimensional instruments limited the scope of women's perception; for example, the 'Labor Agentry Scale' that was developed to measure perceived control and the 'Wijma Delivery Experience Questionnaire' that was used to measure fear of childbirth (Hodnett and Simmons-Tropea, 1987; Wijma et al., 1998). In addition, to maintain the content validity of existing instruments, we could not perform a cross-cultural adaptation into French. Some important factors of delivery experience described previously were lacking or these instruments focused on quality of care; for example, the French version of the 'Women's Views of Birth Labour Satisfaction Questionnaire version 4' measured quality of care in obstetrics (Floris et al., 2010).

Therefore, we first developed a novel multidimensional questionnaire to be able to comprehensively assess the delivery experience: the 'Questionnaire for Assessing Childbirth Experience' (QACE), which was created considering the core factors of the delivery experience: representations and expectations, sensory experiences, perceived control, relationships with caregivers and the partner, and representation of an ideal childbirth (Carquillat et al., 2016). Items were generated from a literature review, existing instruments, and discussions among an expert panel. News items were created to specifically evaluate representations of an ideal childbirth, understanding of events during childbirth, emotions, and first moments with the newborn according to the results of a previous qualitative study on childbirth experience (Guittier et al., 2014). The QACE has satisfactory measurements properties and it can be used to assess the various aspects of the childbirth experience. All four subscales had satisfactory internal consistency levels (alpha coefficients from 0.70 to 0.85).

This study assessed the relationship between delivery method and childbirth experience. Using a quantitative approach provided an opportunity to generalize results from our previous qualitative study.

Methods

Study design

The methods for developing and validating the QACE are described elsewhere (Carquillat et al., 2016). Data were collected as a cross-sectional study. The QACE was sent between four and six weeks after delivery.

Study sample

Participants were recruited from July 2014 to January 2015 during their stay in the maternity wards of two university hospitals (Geneva, Switzerland and Clermont-Ferrand, France). In Geneva, 65% of deliveries take place in the public hospital. Obstetric care is provided by midwives in case of low risk and uncomplicated deliveries. In our maternity we have approximately 4000 births/year, with nearly 30% caesarean section. The inclusion criteria were ability to speak, write, and read French, primiparous, singleton fetus, gestational age up to 37 weeks, and the newborn not separated from his/her mother for medical reasons during the maternity stay.

Assessment of the childbirth experience

Women could choose to respond using a web-based (Lime Survey®) or a postal questionnaire.

The QACE exists in two versions with two possible uses:

The full-version including 25 items (Table 1) is an index that is used to analyse each item by itself as a 'clinimetric scale' (Feinstein, 1987). A Numeric Rating Scale (NRS) was used to provide overall self-assessment of the childbirth experience (ranging from 0 to 10 with higher scores indicating a more positive experience) and to assess pain recall (0=*no pain* to 10=*excruciating pain*).

The short-version comprising 13 items is a thematic grouping (similar to a psychometric instrument) that could facilitate the interpretation of women's responses by summarizing their general childbirth experiences with scores for four key dimensions (Table 1): 4 items (5, 6, 7, 8) rated the *'relationships with the staff'*, 3 items (1, 2, 4) rated *'emotional status'*, 3 items (17, 18, 19) rated *'first moments with the newborn'*, and 3 items (21, 22, 23) rated *'feelings at one-month postpartum'*. Scores in each dimension were calculated by averaging the corresponding items if at least 2 items were non-missing. Scores range from 1–4 with higher scores indicating a more negative childbirth experience. Participants completed the questionnaires (full-version) between four and six weeks post partum. The response format was a 4-point Likert-scale (*totally*, *in part*, *not so much*, *not at all*).

Obstetric and demographic variables

In addition to the QACE, we added 12 questions referring to obstetric and demographic variables. All collected data were self-reported. Delivery methods included: spontaneous vaginal delivery (VDs), instrumental vaginal delivery (VDi) (e.g. forceps or vacuum-assisted delivery), elective CS, and emergency CS. Demographic data (age, native country, native language, highest education level) and