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Identifying women who are afraid of giving birth: A comparison of the fear of birth scale with the WDEQ-A in a large Australian cohort

H.M. Haines [a,b,c,*], J.F. Pallant [b], J. Fenwick [d,e], J. Gamble [d], D.K. Creedy [d], J. Toohill [d], I. Hildingsson [a]

[a] Department of Women's and Children's Health, Karolinska Institute, Stockholm, Sweden
[b] Rural Health Academic Centre, The University of Melbourne, 49 Graham St, Shepparton, Victoria, Australia
[c] Northeast Health, Green St, Wangaratta, Victoria, Australia
[d] Griffith Health Institute and School of Nursing and Midwifery, Griffith University, Meadowbrook, Queensland, Australia
[e] Gold Coast University Hospital, 1 Hospital Boulevard, Southport, Queensland 4215, Australia

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ABSTRACT

Background: The WDEQ-A is the most widely used measure of childbirth fear in pregnant women; however there is increasing discussion in the literature that simpler, more culturally transferrable tools may offer a better solution to identifying fearful women in clinical practice.
Aim: To compare the two item Fear of Birth Scale (FOBS) with the 33 item WDEQ-A in a large cohort of Australian pregnant women.
Method: Self-report questionnaires during second trimester including Wijma Delivery Expectancy Questionnaire (WDEQ-A) and Fear of Birth Scale (FOBS). Correlation of FOBS and WDEQ-A was tested using Spearman's correlation coefficients. Receiver operating characteristic (ROC) curve assessed the sensitivity and specificity of possible cut-points on the FOBS against WDEQ-A cut-point of ≥85. Sensitivity, specificity, positive and negative predictive values were determined. Fearful and non-fearful women as classified by both instruments were compared for differences in demographic, psycho-social and obstetric characteristics.
Results: 1410 women participated. The correlation between the instruments was strong (Spearman's Rho = 0.66, $p < 0.001$). The area under the ROC was 0.89 indicating high sensitivity with a FOBS cut-point of 54. Sensitivity was 89%, specificity 79% and Youden index 0.68. Positive predictive value was 85% and negative predictive value 79%. Both instruments identified high fear as significantly associated with first time mothers, previous emergency caesarean and women with self-reported anxiety and/or depression. Additionally FOBS identified a significant association between fearful women and preference for caesarean.
Conclusion: This study supports the use of the FOBS in clinical practice to identify childbirth fear in pregnant women.

Introduction

Fear of childbirth has long been the subject of research interest and clinical attention in the Scandinavian countries [1,2]. More recently it has been explored in other parts of the world with focused research now occurring in Australia [3–5]. Fear of childbirth is important to understand and respond to as it has been associated with caesarean section on maternal request [6, 7], post traumatic stress disorder [8], increased length of labour [9], negative birth experiences and low satisfaction with care [10].

Some level of apprehension in facing birth is considered normal and adaptive with a spectrum which places women from low levels of nervousness through to severe fear and tocophobia [11]. For multiparous women who perceive their previous birth as a negative experience, the fear of a subsequent birth is the most common explanation for their fear and makes intuitive sense to clinicians and researchers alike [3,12,13]. For nulliparous women, and indeed also for some multiparous women, there are social issues which are predictive of childbirth fear such as suboptimal living circumstances and limited family support [14]. In addition, studies of young female university students in Canada who have never been pregnant have uncovered strongly held societal attitudes generated through media that produce a fear of future childbirth [15]. Attitudes and beliefs consistent with a view that birth is a natural event have been shown to be protective of childbirth fear [15,16].

* Corresponding author. Rural Health Academic Centre, The University of Melbourne, 49 Graham St, Shepparton, Victoria, Australia. Tel.: +61417105872.
E-mail address: hhaines@unimelb.edu.au (H.M. Haines).

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The research to date has highlighted that sensitive questioning early in the pregnancy from the midwife or doctor about the presence and the level of fear is extremely important in preparing for the forthcoming birth. Discussing fear also has the potential to uncover deeper and longer term psychological problems that a woman has not previously been able to disclose. Importantly, fear of childbirth is associated with underlying anxiety and or depressive disorders [17,18] and may therefore be an early clue to the midwife or doctor in uncovering previously undiagnosed mental illness in the antenatal period. Notably childbirth fear is more prevalent in women who have experienced sexual abuse [19,20]. For these women childbirth fear, which is recognised by the health professional and questioned further, may be the first time they have been able to reveal their abuse and seek help.

In clinical practice accurate identification of women who suffer from childbirth related fear is hampered by discrepancies in both definition and measurement. There are conceptual differences in definitions of fear between women and varying cultural perspectives of childbearing per se [21]. Inconsistencies in the prevalence and the impact of fear result from heterogeneity in research design, including the measurement tools used and the populations studied. In the Nordic countries fear of birth is estimated to negatively affect 10–20% of pregnant women, with between 5 and 8% of these women experiencing severe or disabling fear [2]. Studies from Australia and the United Kingdom indicate that the prevalence of problematic fear may be even higher than in the Nordic countries with 26%–30% of pregnant women reporting high fear [3,4]. Just what constitutes low fear, moderate fear, high fear, severe fear is a further complication in understanding the prevalence and impact of fear in a consistent, comparable way.

To date, the most frequently used instrument to identify and measure the construct of fear of childbirth is the Wijma Delivery Expectancy Questionnaire (WDEQ-A) [22]. This instrument was developed in the late 1990s in Sweden and has been used in a variety of international research settings [4,23-26]. Findings from studies which use the WDEQ-A vary however in the methodology used to categorise specific levels of fear and consequently there are inconsistencies in identifying which women qualify as being in the problematic group. Some studies for example report the mean score of the WDEQ-A [23], while others report fear as the top quartile of the continuous measure [4,24]. Some studies use scores above a cut-point of ≥85 [17] to indicate problematic fear with descriptors ranging from "high" or "intense" or "severe" fear and scores above 100 denoting "extreme fear" 'or "very intense" fear [18,27].

It has been suggested that the length of the WDEQ-A may limit its acceptability outside of research settings [17] and that cultural transferability of some items may be doubtful. In English speaking contexts some issues have been shown with the wording of items 28 and 30 – "funny" and "self evident" [4,23]. The multidimensionality of the WDEQ-A has been explored in several studies with differing factor solutions [4,23,26,28]. When the WDEQ-A was recently used across six European countries [28] exploratory factor analyses revealed significant differences between the countries in the scores on the six factors extracted, but the total mean WDEQ-A score (with the exception of nulliparous women in Belgium) was similar. The authors concluded the level of fear was comparable but that the content of fear of childbirth may differ between countries. This could mean that some women may score high in domains such as *Lack of self-efficacy or Social isolation* for example, with lower scores on the items specific to the domain of *Fear of giving birth*, thus giving them an overall high score which may be more aligned to broader psycho-social problems than a specific fear of childbirth. It might also be argued that, given the multidimensionality of the WDEQ-A, it may not be appropriate to combine each factor score to create a single total score for fear of birth.

In recognising these constraints of measurement and translation, a single visual analogue question was tested by Rouhe et al., [27] and showed good predictive capacity in identifying women with fear of birth when compared to the 33 item WDEQ-A. Patient-rated visual analogue scales (VAS) are a clinically useful tool in the measurement of mood and have been used for that purpose for many years [29]. The simplicity of these scales promotes high compliance, they are easily understood across language groups, and they have been shown to be both reliable and valid [30]. Rouhe et al.'s large [27] Finnish cohort study of more than 1300 women demonstrated a good correlation between the single item 10 cm VAS and the WDEQ-A with a sensitivity of 97.8% in screening for fear of childbirth (WDEQ-A 100) at the VAS cut point value of 5 with specificity of 65.7%. When the VAS cut-point was increased to 6.0, sensitivity was 89.2% and specificity 76.3%. Further development of the idea for a simpler scale led to the use of numeric rating scale (NRS) of childbirth fear in a Norwegian cohort of 1642 women [17]. The authors concluded that the use of NRS "may promote high compliance in studies and may, for some purposes, replace the WDEQ-A" [17] p241.

Extending this research, a cross cultural study from Australia and Sweden explored the use of a two-item VAS to measure fear of birth [3]. In this study expectant mothers were asked to rate their feelings about the approaching birth by placing a mark on two VAS-scales with the anchors (a) "calm and 'worried" and (b) "no fear and strong fear". The two scores were averaged to create the Fear of Birth Scale (FOBS) with possible scores ranging from 0 to 100. Internal consistency was strong with a Cronbach alpha of 0.91. The construct and known groups validity of the scale was well supported at a cut-point of 50. The FOBS has also been used in a population of Swedish expectant fathers [31]. It has been argued that the FOBS is short, intuitive and easy to use clinically, providing a pragmatic tool for midwives and doctors to open a discussion with women about fear of childbirth [3].

Although the 33-item WDEQ-A is currently the most widely used measure of childbirth fear in pregnant women, there is increasing discussion in the literature that simpler, clinically practical and more culturally transferrable tools may offer a better solution to identifying fearful women in clinical practice. The aim of this study is to compare the two item Fear of Birth Scale (FOBS) [3] with the 33 item WDEQ-A [22] in a large sample of Australian pregnant women.

Method

Design

This study involves secondary analysis of data from a large Australian randomised control trial designed to test the effectiveness of a midwife led psycho-education intervention to reduce childbirth fear – The BELIEF study [32]. Pregnant women from antenatal clinics in Queensland Australia were invited to participate in the study. A total of 2311 women were approached and of these 61% (n = 1410) were recruited [5]. Those who consented completed three self-report questionnaires during their second trimester, 36 weeks of pregnancy, and 4–6 weeks after birth. The questionnaires comprised a variety of screening instruments including the Wijma Delivery Expectancy Questionnaire (WDEQ-A) [22] and the Fear of Birth Scale (FOBS) [3]. For more details on the full questionniare please see Fenwick et al. [32]. The data used for the current study are from time point one administered to women in their second trimester. The results of the BELIEF study are reported elsewhere [5].

Instruments

Women were asked to complete demographic data and general information and details regarding any previous births.