Original Article

Preliminary Results of the Wijma Delivery Expectancy/Experience Questionnaire in a Greek Sample

Pinelopi Varela, MW, MSc, PhD(c)
General Hospital of Athens ''Alexandra'', Department of Midwifery, University of West Attica, Athens, Greece

Ioannis Zervas, MD
Professor of Psychiatry and Psychosomatic Medicine, National and Kapodistrian University of Athens Medical School, Head of the Women's mental health and reproductive psychiatric clinic, Eginition University Hospital, Athens, Greece

Aikaterini Lykeridou, RN, RM, PhD
Professor of Midwifery, Department of Midwifery, University of West Attica, Athens, Greece

Anna Deltsidou, RN, RM, MSc, MPH, PhD
Professor of Midwifery Department of Midwifery, University of West Attica, Athens, Greece

Correspondence: Pinelopi Varela, Postal address: Ag. Spyridonos 28, Aegaleo, 12243, Athens, Greece, e-mail address: pinelopimid@yahoo.gr

Abstract

Background: The fear of childbirth has been associated with unfavorable outcomes. The most often used method for its assessment is the use of the Wijma Delivery Expectancy/Experience Questionnaire (W-DEQ).
Aims: The aim of this pilot study was to identify possible issues and shortcomings in the main research project and to pretest the Wijma Delivery Expectancy/Experience Questionnaire in Greece.
Methodology: Pregnant women in the second or in the third trimester of pregnancy invited to participate in the study and to complete a booklet of questionnaires (demographic characteristics, mental health, obstetric history, the Wijma Delivery Expectancy/Experience Questionnaire (version A & B), the Greek version of State-Trait Anxiety Inventory (STAI) and the Greek version of Edinburgh Postnatal Depression Scale (EPDS). Translation, test-retest and internal consistency reliability of the Wijma Delivery Expectancy/Experience Questionnaire were performed. The scores of both versions of the Wijma Delivery Expectancy/Experience Questionnaire were examined for correlations with the State-Trait Anxiety Inventory and the Edinburgh Postnatal Depression Scale scores scales.
Results: The feasibility of the study protocol confirmed. Our findings provided evidence for good test-retest reliability and acceptable values of Cronbach's a. Both versions of the Wijma Delivery Expectancy/Experience Questionnaire were correlated with the State-Trait Anxiety Inventory and the Edinburgh Postnatal Depression Scale in weak and moderate levels.
Conclusion: Our pilot study achieved its aims and provided important information about potential issues and challenges of the main research protocol in the future. The upcoming validation of the Wijma Delivery Expectancy/Experience Questionnaire in Greece it seems to be an achievable goal.

Key words: Fear of childbirth; Tocophobia; Wijma Delivery Expectancy/Experience Questionnaire; pilot study.

Introduction

The Wijma Delivery Expectancy/Experience Questionnaire (W-DEQ) is the most commonly used tool for assessment and diagnosis of fear of childbirth (FOC) (O'Connell et al 2017a; Nilsson et al., 2018) and it has been identified as the gold standard measure of FOC (Wijma, 2013). FOC, which is marked by symptoms such as worry or excessive fear, can be developed during antenatal period (Handelzalts et al., 2015). Some women experience tokophobia as a result of their fear of childbirth, which goes beyond concerns and worries (O'Connell et al, 2015b).

FOC is experienced by both primiparous and multiparous pregnant women and may have adverse effects (Nilsson et al., 2018). Previous

published studies have demonstrated several unfavorable consequences of FOC concerning both the woman and the neonate. Some of them are antenatal depression, requests for cesarean section, increased risk of postnatal depression and long-term emotional effects on infant (O'Connell et al., 2015b). According to a recent systematic review the prolonged labor, the use of epidural analgesia, the obstetric complications, the presence of traumatic stress symptoms and the need for psychiatric care were the reported outcomes in women with FOC (Dencker et al., 2019).

Given the adverse effects of FOC, further research on it is deemed necessary. The measurement of the FOC in Greece, is quite limited. One of the reasons may be the fact that there are not enough validated instruments. The general purpose of the present pilot study was to identify potential problem areas and deficiencies in the main research project concerning the FOC in Greece. The specific aims were:

a) to determine the feasibility of the main study protocol, b) to examine if the recruitment methods of participants are suitable, c) to translate and to pretest the W-DEQ (version A & B) and d) to investigate the preliminary psychometric characteristics of the two versions of the W-DEQ scale.

Participants and Procedure

Study design: The pilot study was conducted with characteristics of an observational cohort study, which will be the main future research project.

Setting: The study was conducted in a public maternity hospital of Athens from January to May 2020.

Participants and recruitment of participants: Pregnant women had to meet the following inclusion criteria: aged over 18 years, with adequate understanding of the Greek language and with a low risk pregnancy. Pregnant women having a severe chronic disease, a high risk pregnancy, a psychiatric illness or intaking a psychiatric medication and with twin or multiple pregnancy were excluded.The main researcher invited eligible pregnant women in the second or in the third trimester of pregnancy, to participate in the study during their routine antenatal examination. Participants were informed about all the study procedures and adequate time was given for them to consider whether they wanted to participate. Once they agreed, the main researcher provided to them the guidelines for the adequate fill out of the questionnaires. The response rate was recorded and the progression of the data collection by the main researcher was observed.

Sample size: No sample size justification has done because of the pilot nature of the study. Our aim was to test the final version of W-DEQ (A & B) in a sample from the target population and so the sample size composed of 30 women.

Data collection: Participants were asked to complete a booklet of questionnaires in two stages. At stage 1 (i.e. antenatal period, during the second or third trimester of pregnancy) women were asked to fill out a questionnaire with demographic characteristics, questions concerning the mental health and obstetric history, the Wijma Delivery Expectancy/Experience Questionnaire (W-DEQ, version A), the Greek version of State-Trait Anxiety Inventory (STAI) and the Greek version of Edinburgh Postnatal Depression Scale (EPDS). At stage 2 (i.e. 4 weeks postpartum) women were asked to fill out the Wijma Delivery Expectancy/Experience Questionnaire (W-DEQ, version B), the EPDS and a questionnaire relating to childbirth and postpartum period.

Measurement tools

Wijma Delivery Expectancy/Experience Questionnaires (W-DEQ): The Wijma Delivery Expectancy/Experience Questionnaire (W-DEQ), consisted of two versions that measure a woman's prenatal perception of childbirth and her expectations (version A) and her experience relating the childbirth (version B). Each version contains 33 items that are rated on a 6-point Likert scale ranging from 0 (extremely) to 5 (not at all). The maximum score of the questionnaires is 165 and the minimum score is 0. Higher scores indicating higher levels of fear. The internal consistency of both original versions is excellent (version A; Cronbach's alpha = 0.93 and version B; Cronbach's alpha = 0.93 at 2 hours after delivery and Cronbach's alpha = 0.94 at five weeks postpartum) (Wijma, Wijma, & Zar, 1998). The W-DEQ has been translated into several languages including Japanese (Takegata et al., 2013), Italian (Fenaroli & Saita, 2013), Persian (Andaroon et al, 2020) and Turkish (Korukcu, Bulut, & Kukulu, 2016), but so far not in the Greek language.

The State-Trait Anxiety Inventory (STAI): The Spielberger State-Trait Anxiety Inventory (STAI) is composed of two subscales. The State subscale measures anxiety at the time of assessment, which can vary over time. The Trait subscale measures

anxiety level as a personal characteristic, which is stable over time. Each subscale contains 20 items rated on a 4-point Likert scale ranging from 1 to 4. The total score ranges from 20 to 80, for each subscale and higher scores indicating higher levels of anxiety (Spielberger et al, 1983). The questionnaire has been translated and validated in the Greek population and the Cronbach's alpha was found to be 0.93 for the state anxiety subscale and 0.92 for the trait anxiety subscale (Fountoulakis et al., 2006).

Edinburgh Postpartum Depression Scale (EPDS): EPDS is a widely used tool with a good validity and reliability, both in the prenatal and postnatal population. The scale consists of 10 statements describing depressive symptoms and has four possible answers, each rated according to the severity or duration of the symptom. The answers are scored from 0 to 3, and at the end their total sum is calculated (Cox, Holden, & Sagovsky, 1987). The EPDS scale has been translated and validated in the Greek population, with the internal consistency reliability of the scale being excellent (Cronbach's alpha = 0.9) (Leonardou et al., 2009).

Translation of the Wijma Delivery Expectancy/Experience Questionnaire (W-DEQ version A & B) into Greek: The translation process begun after the permission of the author of the original version (Professor Klaas Wijma).

Stage 1-forward translation: Two bilingual translators, with different profiles, whose mother tongue is the Greek language produced two independent forward translations of the instrument from the English language.

Stage 2- synthesis of the translations: The two forward translators and one of the researchers (AD) synthesized and reviewed the results of the translations.

Stage 3- back translation: Two translators, whose mother tongue was the English language performed independently the back translation.

Stage 4- Expert Committee and Submission of documentation to the developer: The composition of the Expert Committee was comprised of one of the researchers (AD), the translators (forward and back translators) and three health professionals. All the reports of the translated version submitted to the developer of the instrument.

Test-Retest Reliability of W-DEQ (version A & B): In order to examine the test–retest reliability of the scale, both versions were administrated to the same sample group of women at different times. The time interval between the two administrations of both versions was ten days. The completed questionnaires for the retest were sent via e-mail to the main researcher.

Ethical Considerations: The study protocol was approved by the Research Ethics Committee of the University of West Attica (Reference number: 41087) and by the Scientific Committee of the Hospital where the study conducted. Written informed consent was taken from all the participants. All women were informed about the aim of the study and their right to withdraw from the study at any time.

Statistical analysis: Data analysis was performed by SPSS v. 22.0. Descriptive statistics were summarized as mean values and standard deviations (SD) for the quantitative variables and as frequency distributions for the qualitative variables. Due to the small sample size, exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were not possible to be done, so the total score on both versions of the W-DEQ scale was calculated. For reporting the findings of test–retest reliability the intraclass correlation coefficients (ICCs) were used. The similarity between values from the same group is considered low when the ICC is up to 0.4, moderate when it ranged from 0.41 to 0.6, high when it ranged from 0.61 to 0.80 and very high when was greater than 0.8 (Akoglu, 2018). The internal consistency of both W-DEQ scale versions was evaluated by the Cronbach's alpha and values > 0.7 were considered as acceptable (Streiner, 2003). To examine the convergent and divergent validity the scores of both W-DEQ scale versions were correlated with those of the STAI and the EPDS scales. The Spearman correlation coefficient (r) was used and was designated as weak (<0.30; measuring unrelated constructs), as moderate (0.31-0.50; measuring related, but dissimilar constructs) and as high (≥0.50; measuring similar constructs) (Mokkink et al., 2018). P-values of < 0.05 were considered statistically significant.

Results

Feasibility of the study protocol: The time taken by the main researcher to explain the aim of the study and obtain consent from the participants was about 15 minutes. The identification of the eligible pregnant women was characterized by the main researcher as a little bit time-consuming process. Relatively with the rest study procedures no problems have been observed.

Recruitment of participants: All eligible invited participants agreed to participate in the study. The

completion of the questionnaires took place in the waiting room while participants waited for their appointments. It was not observed any difficulty about the questionnaires for the retest which were sent via e-mail to the main researcher.

Pretesting of the W-DEQ (version A & B): On average, the participants took about 10-15 minutes to complete each version of the scale and they responded to all questions. It was not noticed by the participants unclear or ambiguous items in the whole scale.

Characteristics of participants: The mean age of the total sample was 34.3 years (SD=3.8). The majority of the participants were married (90.0%), had graduated from college or university (73.3%) and had a full paid employment (53.3%). Twelve women had visited a specialist of mental health in the past. The 43.3% of the participants were primigravidas. The majority of the participants (73.3%) gave birth vaginally and without complications during the delivery. Detailed characteristics of the participants are shown in Table1. The mean total score on W-DEQ-A and W-DEQ-B was 56.1 (SD=18.9) and 44.8 (SD=23.2) respectively (Table 2).

Preliminary psychometric characteristics of the W-DEQ (version A & B): The test–retest reliability (ICC) for W-DEQ-A ranged from 0.88 to 1.00 and for W-DEQ-B ranged from 0.92 to 1.00. Cronbach's a reliability coefficient for both versions of the scale were above the acceptable limits (Table 2). Table 3 presents the correlations between W-DEQ (A&B), STAI and EPDS. The W-DEQ-A had a weak correlation with the subscale of the STAI, state anxiety ($r= 0,22$, $p > 0.05$) and a moderate correlation with the subscale trait anxiety ($r= 0,46$, $p < 0.05$). The W-DEQ-B had a weak correlation with both subscales of the STAI (state anxiety; $r=0,30$, $p > 0.05$, trait anxiety; $r=0,27$, $p > 0.05$). The W-DEQ-A had a weak correlation with the EPDS prenatal ($r= 0,29$, $p > 0.05$) and a moderate correlation with the EPDS postnatal ($r= 0,31$, $p > 0.05$). The W-DEQ-B had a moderate correlation with the EPDS prenatal and postnatal ($r=0,32$, $p > 0.05$ and $r=0,36$, $p < 0.05$, respectively).

Table1: Characteristics of participants

		N	%
Age, mean (SD)		34.3 (3.8)	
Marital status	Married	27	90.0
	Single in a relationship	2	6.7
	Single without a relationship	0	0.0
	Cohabitation with a partner	0	0.0
	Separated	0	0.0
	Divorced	0	0.0
	Cohabitation agreement	1	3.3
	Widow	0	0.0
Educational level	Primary	0	0.0
	Secondary	5	16.7
	Tertiary	22	73.3
	Other	3	10.0
Professional status	Full paid employment	16	53.3
	Part-time employment	5	16.7
	Self-employment	1	3.3
	Unemployed	6	20.0
	Household	2	6.7
Other children	No	13	43.3
	Yes	17	56.7
Number of children	1	11	64.7
	2	5	29.4
	3	1	5.9
Visit to a specialist of mental health in the past		12	40.0
Miscarriage in the past	No	22	73.3

	Yes	8	26.7
Complications in previous pregnancy	No	25	83.3
	Yes	5	16.7
Parity	1	13	43.3
	2	11	36.7
	3	5	16.7
	4	1	3.3
The present pregnancy was	Planned	17	56.7
	Unplanned, but desirable	12	40.0
	Unplanned, but not so desirable	1	3.3
	Unwanted	0	0.0
Complications in the current pregnancy	No	22	73.3
	Yes	8	26.7
Gestational age at delivery, mean (SD)		38.7 (0.9)	
Type of delivery	Vaginal delivery	22	73.3
	Instrumental delivery	0	0.0
	Cesarean section	8	26.7
Complications during delivery	No	21	70.0
	Yes	9	30.0

Table 2: Mean total score, test–retest reliability ICCs and Cronbach's a

	Total score Mean (SD)	ICC	Cronbach's a
W-DEQ-A	56.1 (18.9)	0.88-1.00	0.91
W-DEQ-B	44.8 (23.2)	0.92-1.00	0.94

Abbreviations: ICC: Intraclass correlation coefficients; W-DEQ: Wijma Delivery Expectancy/Experience Questionnaire.

Table 3: Correlations between W-DEQ (A & B), STAI and EPDS.

		State anxiety	Trait anxiety	EPDS (prenatal)	EPDS (postnatal)
W-DEQ-A (total)	r	0.22*	0.46**	0.29*	0.31*
W-DEQ-B (total)	r	0.30*	0.27*	0.32*	0.36**

Abbreviations: EPDS: Edinburgh Postpartum Depression Scale; r: Spearman correlation coefficient; W-DEQ: Wijma Delivery Expectancy/Experience Questionnaire.
* P-values of > 0.05, ** P-values of < 0.05.

Discussion

This pilot study has demonstrated that the study protocol is feasible. The recruitment methods of the participants based on the inclusion criteria of the study were suitable and all the study procedures seemed to be acceptable to the participants. The pilot test of W-DEQ scale demonstrated that there were not questions that participants refused to answer or questions that seemed to be misinterpreted or difficult to understand.

It was observed that the mean total score on W-DEQ-B, i.e. after childbirth, was significantly lower than the mean total score during the prenatal period. This finding possibly indicates that women expressed lower levels of fear after their delivery. Unfortunately, this cannot be confirmed due to the pilot design of the present study and due to the lack of the scale's validation.

Our results showed high ICCs that indicates a very high similarity between scores from the same group. Thus, this is considered evidence for good test-retest reliability.

Moreover, values of Cronbach's a were high for both versions of the scale indicating acceptable reliability.

The results of the convergent validity of the W-DEQ-A scale showed a weak and a moderate correlation with the STAI and the W-DEQ-B scale

showed a weak correlation with the STAI. However, it would be excepted that the correlation between these scales would be of a moderate and of a high level because the W-DEQ measures in the domain of anxiety (Wijma, Wijma & Zar, 1998). The results of the discriminant validity of the W-DEQ scale (A & B) showed a weak and a moderate correlation with the EPDS. This finding indicates that the W-DEQ (A & B) has the capability to differentiate from the EPDS's construct. Our results are preliminary and cannot completely determine the correlations between W-DEQ and the other scales. However, this first attempt can provide us an initial estimate for the construct validity in the future. The future validation of both versions of the W-DEQ scale in Greece will allow not only the ability to compare the fear levels between the antenatal and the postnatal period in Greek women, but also it will allow us to do comparisons with pregnant populations of different cultures. In addition, the validation will permit us to present clearly the psychometric properties of the scale. Our goal was to conduct a pilot test of the main study on a small sample size to sort out all the possible problems and difficulties that might lead to the failure of the main research protocol. This goal was achieved and we consider that the risk of failure minimized.

Name and postal address of the place where the work was carried out: General Hospital of Athens ''Alexandra'', Lourou 4-2, Athens 115 28.

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