

Background

- **Feelings of uncertainty and anxiousness: from the woman's experience of being captured in a situation where she faces the approaching delivery**
- **Intense fear of childbirth: causes adverse perinatal and psychological outcomes:** voluntary infertility, increased analgesic use during labor, increased childbirth interventions, elective cesarean section, negative birth experience, and post-traumatic stress symptoms
- **The Wijma Delivery Expectancy/Experience Questionnaire (W-DEQ version A and B) : developed to measure women's feelings and fear about childbirth.**
- Woman's cognitive appraisal regarding the delivery process and its first psychometric properties was evaluated by Wijma and her colleagues (Wijma et al. 1998).
- **There is lack of methodological study validating the instrument of fear of childbirth, and no available measures to evaluate the effect of childbirth-preparation class on relieving fear of childbirth in Korean pregnant women.**

Objective

- **To translate the W-DEQ version A (delivery expectancy for antenatal version) into Korean, and**
- **To examine its validity and reliability among Korean pregnant women**

Methods

- **Study design: Cross-sectional study design**
- **Study participants: 228 pregnant women** with 26 weeks and more gestational age.
- Data collection method: **by self-administered study questionnaires** after receiving written consent
- Instrument: **The W-DEQ Version A (31-item):** using translation guideline from World Health Organization: translation and two back-translation method
- **Analysis for validity test:** Exploratory Factor Analysis (EFA), known-group validity and convergent validity; Cronbach's alpha for the reliability of the W-DEQ

Results

1. Characteristics of study participants

- **n=281, whose** gestational age ranging from 26 to 40 weeks
- Mean age of subjects: 32 years old
- 74% - nullipara, 64% - planned pregnancy
- 52% - had a job, 96% - married,

2. Validity test

- Exploratory factor analysis
 - : Kaiser-Meyer-Olkin (KMO) .83,
 - Bartlett's test for sphericity: $\chi^2=3213.73$, $p<.001$
 - EFA method of extraction : PCA
 - Rotation: Varimax
 - Criteria for number of factor extraction : Eigen value ≥ 1
 - Criteria for loading values: $\geq .4$

1) EFA (Table 1) – 5 factors

- **isolation(9), expectation(8), loss of control(6), fear of pain(6), and concern for well-being of self and baby(2)**

2) Known-group validity (Table 2)

- check mean differences between nulliparous and parous women -> **No group difference**

3) Convergent validity (Table 3)

- **Correlation between Korean W_DEQ and anxiety $r=.466$ ($p<.001$), between Korean W_DEQ and DASS $r=.296$ ($p<.001$)**

Table 2. Comparison of Korean W_DEQ scores between Nulliparous and Parous Group (N=228)

| Korean W_DEQ | Groups | | t | p |
|--------------|----------------------------|-----------------------|-------|------|
| | Nulliparous(n=169) M±SD | Parous (n=56) M±SD | | |
| Isolation | 17.45±6.96 | 15.73±7.83 | 1.51 | .132 |
| Expectation | 12.11±6.00 | 12.36±6.10 | -.247 | .805 |
| Self-control | 14.757±4.43 | 13.87±5.30 | 1.21 | .226 |
| Fear | 19.45±5.10 | 18.66±5.70 | .934 | .351 |
| Riskiness | 2.10±2.28 | 1.96±2.07 | .395 | .693 |

Table 3. Relationships among Korean W_DEQ, DASS-21 and STAI (N=228)

| Measures | Korean W_DEQ | DASS-21 | STAI |
|---------------------------------|--------------|-------------|------|
| | r(p) | r(p) | r(p) |
| Korean W_DEQ | 1 | | |
| Depression anxiety stress scale | .296(<.001) | 1 | |
| STAI | .466(<.001) | .666(<.001) | 1 |

Table 1. Exploratory Factor Analysis of Korean W-DEQ

| No. | Items | F1 | F2 | F3 | F4 | F5 |
|----------------------------|-------------------------------|------|------|------|------|------|
| 8 | Weak | .726 | | | | |
| 11 | Desolate | .711 | | | | |
| 3 | Lonely | .691 | | | | |
| 7 | Deserted | .603 | | | | |
| 15 | Abandoned | .598 | | | | |
| 20 | Hopelessness | .593 | | | | |
| 27 | Lose control of myself | .566 | | | | |
| 25 | Behave badly | .540 | | | | |
| 31 | Dangerous | .469 | | | | |
| 28 | Enjoyable | | .761 | | | |
| 29 | Natural | | .721 | | | |
| 30 | Self-evident | | .714 | | | |
| 14 | Proud | | .679 | | | |
| 13 | Glad | | .663 | | | |
| 21 | Longing for the child | | .582 | | | |
| 18 | Happy | | .519 | | | |
| 1 | Fantastic | | .418 | | | |
| 17 | Relaxed | | | .696 | | |
| 22 | Self-confidence | | | .615 | | |
| 16 | Composed | | | .608 | | |
| 26 | Allow my body to take control | | | .588 | | |
| 5 | Confident | | | .535 | | |
| 23 | Trust | | | .492 | | |
| 24 | Pain | | | | .723 | |
| 12 | Tense | | | | .683 | |
| 4 | Strong | | | | .657 | |
| 2 | Frightful | | | | .609 | |
| 6 | Afraid | | | | .565 | |
| 19 | Panic | | | | .464 | |
| 32 | Child will die | | | | | .888 |
| 33 | Child will be injured | | | | | .856 |
| Variance % (total) = 53.24 | | | | | | |

Factor1: Isolation, Factor2: Expectation, Factor3: Self-control, Factor4: Fear, Factor5: Riskiness

3. Reliability test

- Cronbach's alpha = .89
- 5 sub-factors = .43~.82
 - : isolation .73, expectation .82, fear of pain .43, loss of control .77, link for well-being of self and baby .61

Conclusion

The Korean version W-DEQ may be a useful tool for assessing and providing antenatal education for mothers' experiencing emotional distress related to fear of childbirth during the prenatal period.

References

- Waldenström, U., Hildingsson, I., & Ryding, E. L. (2006). Antenatal fear of childbirth and its association with subsequent caesarean section and experience of childbirth. BJOG: An International Journal of Obstetrics & Gynaecology, 113(6), 638-646.
- Söderquist, J., Wijma, B., Thorbert, G., & Wijma, K. (2009). Risk factors in pregnancy for post-traumatic stress and depression after childbirth. BJOG: An International Journal of Obstetrics & Gynaecology, 116(5), 672-680.
- Wijma, K., Wijma, B., & Zar, M. (1998). Psychometric aspects of the W-DEQ; a new questionnaire for the measurement of fear of childbirth. Journal of Psychosomatic Obstetrics & Gynecology, 19(2), 84-97.

Keywords

- **Fear of childbirth**
- **Reliability and validity**
- **Wijma Delivery Expectation Questionnaire**

Acknowledgement

This study was partially supported by BK21 PLUS 2016-2019, College of Nursing, Chungnam National University, Korea.