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Original article

Assessment of the validity and reliability of the Decisional Conflict Scale for pregnant women in Iran

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Abstract

Background: Engaging pregnant women in selecting the delivery type has been recognized as an important factor for world health. The aim of this study was to assess the validity and reliability of the Iranian version of Low Literacy Decisional Conflict Scale (DSC-LL) in Iran.

Methods: The English version of DCS-LL was translated and administered to 54 women eligible for selecting the type of delivery. The quantity content validity, the Content Validity Rate (CVR) and Content Validity Index (CVI) were examined. The reliability of the scale was assessed by two methods of internal consistency and test–retest via intra-class correlation coefficient, and Pearson correlation coefficient.

Results: All 10 items had CVR points ranging from 0.8 to 1.0. The scores on the four subscales of this scale revealed high internal consistency (Cronbach's alpha= 0.847). Test-retest reliability via Intraclass Correlation Coefficient (ICC) (ICC=0.981) and Pearson's correlation coefficient (r=0.083) was significant at the level of P<0.001.

Conclusion: The results showed that the Iranian version of DCS-LL is a valid, reliable and appropriate tool to be administered to pregnant women for selecting the type of delivery. However, further studies are needed to evaluate the influence of health literacy on this scale.

Keywords: Decisional Conflict Scale, Mode of delivery pregnancy, validity, Reliability

Introduction

There are several sources to help a person in the process of diagnosis or treatment to make a choice among several different options. The World Medical Association states that "the right for a patient to choose and decide freely on health services should be respected" (1). Therefore, it is important for the patient to make decisions adequately, especially if there are different options among which the patient should choose the most appropriate one (2,3). Physicians and medical staff should provide all information necessary for the decision-making process in a simple and understandable manner in order to reduce decisional conflict so that they can select the most suitable option and make a safe decision (4-6). Although most of the medical treatment decisions are made by doctors, the World Health Organization (WHO) emphasizes that the childbirth decision should be made by the patient. There are eight principles for implementing the childbirth protocols, which have been introduced by WHO, and the beliefs and wants of pregnant woman have been emphasized in the first principle (1). Developed countries have recommended natural delivery and also respect the wants and preferences of

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pregnant women (7, 8). There is uncertainty about the benefits of natural delivery, and there may be potential emotional and physical complications when making the decision between natural delivery and cesarean section. Though natural delivery is safer than cesarean delivery, it has certain dangers. Cesarean may have complications such as anesthetic complications and infant respiratory problems (7, 9-11). A systematic study showed that research in patient decision-making could help patients resolve or reduce decisional conflicts (12).

The original, 16-item version of the Decisional Conflict Scale is widely used to help patients make the most appropriate decision among several available solutions (4, 13-15). An alternative, 10-item, version of the Scale has been developed by O'Connor that is suitable for individuals that have low literacy skills. This Scale includes personal perceptions of individuals in three sub-scales, such as: 1) Uncertainty in the choice of options. 2) Moderating factors such as feeling uninformed, uncertain about personal values, and doubt in decision making that leads to uncertainty. 3) Measures effective decisions such as making informed choices based on values and satisfaction. This Scale is currently available in four languages of the world, such as English, Spanish (Shale) and Spanish (American) (16, 17). The latest version of the Decisional Conflict Scale (Sure) has four questions which are suitable for clinical work (18,19).

The decisional conflict Scale has been used in hundreds of studies among different populations and has been translated and verified in many languages, although it has not yet been translated into Farsi and has not been used in Iran. In addition, there is contrasting information about the number of structures (sub-scales) of this tool (20).

Considering the importance of decision-making in patients, especially pregnant women, who face conflicts in choosing the delivery method, and the importance of using the decisional conflict Scale, as well as lack of clear evidence of reliable decision-making tools for patients in Iran, the purpose of this study was to assess the validity and reliability of the Decisional Conflict Scale in low literacy women in Iran.

Materials and Methods

This study was performed on 54 primipara pregnant women participating in pregnancy counseling classes in Babol. The inclusion criteria were: a minimum of fifth grade elementary education, no history of infertility, no medical barrier for natural delivery, no specific illnesses, and a willingness to participate in the study. The exclusion criteria were: a disease during pregnancy, multiple pregnancies, premature delivery, indications of cesarean section, ultrasound reports of amniotic fluid volume disorder, macrosomia, fetal distress, termination of pregnancy due to medical reasons, and dissatisfaction to continue cooperation. The sample was selected randomly from among the first-time clients in morning and evening classes. The mean age of participants was 25.8 ± 6.3 years. This study was approved by Shahid Beheshti University of Medical Sciences. The research tool was the low-literacy Decisional Conflict Scale, comprising 10 questions in four subscales with three-choice answers: yes, not sure, and no, (5, 2 and 4 points, respectively). In each of the subscales, the total sum of the scores from the questions is calculated first, and the sum of them is divided by the number of questions. The quotient is multiplied by 25, and the higher the resulting score is, the more conflict there is in decision making. (0 indicates no decisional conflict and 100 shows high decisional conflict).

Firstly, the Scale was converted to Farsi by two translators and the translated texts were compared and reviewed in terms of quality. The two translators were consulted and after careful discussion, they selected the most suitable translation for combining the phrases. Secondly, the Farsi translation of the text was given to two other translators who had not seen the original version of the Scale and they translated the Farsi text to English. The two English translations of the Farsi text were compared with the original English text, and no changes were recommended to be made to the Iranian translated version of the Scale.

The validity of the Scale was assessed by two methods: structural validity and content validity. To determine the qualitative content validity of the Scale 10 faculty members from medical science universities with background and knowledge in medical sciences were consulted and their opinions in the text and the appearance of the Scale were applied. For each of the 10 items of the Scale, they gave their opinions in three terms "necessary", "sometimes useful, but unnecessary" and "unnecessary". Responses were calculated based on CVR formula. For each of the 10 items of the Scale, three items are "necessary", "sometimes useful, but unnecessary" and "unnecessary". Responses are calculated based on CVR formula. To calculate the CVI, 10 experts were

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consulted and for each of the 10 items on the Scale, they indicated the following criteria based on the 4-part spectrum. The content validity index was then calculated using the CVI formula.

In order to measure the reliability of the Scale, internal index and re-testing were used. After explaining the purpose of the study, all informed participants gave written consent and the first item of the "low literacy Decisional Conflict Scale" on the choice of delivery method according to O'Connor's recommendations was changed. In order to validate the test and the re-test of the Scale, the participants were presented with the Scale again after two weeks. The data were then analyzed with SPSS version 16.

Results

The Content Validity Index (CVI) was 10 items greater than that of the Lawshe Table (0.79). The results of the compilation of Content Validity Rate (CVR) showed that 9 items had a higher CVR score than 0.62. Therefore, they were recognized appropriate. A residual item had a CVR score of less than 0.62 (0.60), meaning that it needed correction and revision, for which corrections were made. It was re-examined and was accepted by experts (Table 1).

The reliability of the Scale was confirmed by two methods of internal consistency and re-test. To determine the reliability of this study, a group of 54 eligible pregnant mothers were randomly selected to complete the Scale.

To estimate the internal consistency of the Scale, Cronbach's alpha coefficient index was used, and the internal consistency was calculated to be 0.847. For the subscale, the clarity of individual values was 0.888 and the knowledge subscale was 0.837. Considering that these values were more than 0.7, the Scale, “low literacy decisional conflict", had a satisfactory internal consistency and ensured the internal consistency of the questions.

Pearson correlation coefficients were calculated for the scores of 54 subjects during a two-week interval to determine the reliability of the test of the decisional conflict in pregnant women towards delivery method, and r = 0.983 was significant at P <0.0001. Pearson's test correlation coefficients under the subscales of clarity of individual values, awareness, assurance of the best choice and decision making support were 0.975, 0.986, 0.97, and 97.7, respectively, which were all significant (P< 0.05).

The Internal Correlation Coefficient (ICC) of the decisional conflict in the retest with a two-week interval, with a confidence interval of 95%, for all questions on the retest Scale had ICC = 0.981, the subscale clarity of individual values had ICC = 0.974, and the subscales of awareness had ICC = 0.986. To ensure the best decision is made, the decisional support were calculated to be 0.976 and 0.87, respectively, indicating that the Scale was acceptable and appropriate for the present, and that it can be re-conducted (Table 2).

Table 1: Low Literacy Decisional Conflict Scale (CVI) and Content Validity Rate (CVR).

Question number	CVR	CVI Relevancy	CVI Clarity	CVI Simplicity
1	0.8	0.9	0.9	0.9
2	1	0.9	0.9	0.9
3	1	1	0.9	0.9
4	0.8	0.8	0.9	0.9
5	1	0.8	0.9	0.9
6	9/0	1	0.8	0.9
7	1	0.8	0.8	0.9
8	1	1	0.8	0.9
9	0.9	0.9	0.8	0.8
10	0.8	0.9	0.9	0.9

Discussion

In this study, the reliability and validity of the "Decisional Conflict Scale for Individuals with Low Literacy" was used to evaluate the decision-making process of Iranian pregnant women on delivery type. This tool was designed in 1993 by O'Connor. After designing the tool, researchers examined its validity and reliability over time (16). The tool is currently used in Canada (Ottawa), the United States, Japan and Chile (13, 21, 22).

In this study, the validity of the Scale was tested in accordance with many studies, and the structural and content validity indices were used. The Content Validity Index (CVI), 10 items, had an average of 0.88 (at least 0.60). It was greater than the Lawshe Table

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Table 2: Tool Validity Index (Low Literacy Decisional Conflict Scale) in two stages and two week intervals (participants = 54).

Subscales	Cronbach Alpha	Internal Correlation Coefficient	Correlation Coefficient (r*)
Clarity of individual values (questions 9 and 10)	0.898	0.974	0.975
Awareness (questions 1,2, and 3)	0.837	0.986	0.986
Assurance of making the best choice (questions 4 and 5)	0.872	0.976	0.977
Decision making support (questions 6,7 and 8)	0.788	0.887	0.977
Total (questions 1-10)	0.847	0.981	0.983

(0.62). Furthermore, the final average Content Validity Indices of "relevancy", "clarity" and "simplicity" for the tools were 0.90, 0.86, and 0.89, respectively, which confirms the validity of this Scale in Iran. The results of our study were in line with those of the previous studies carried out in various countries on this Scale (23, 24). The results of this study showed that this Scale has a satisfactory reliability index. The Cronbach's alpha coefficient for the whole Scale was calculated to be 0.847. These results are consistent with the findings of Koedoot et al., who used the "Low Literacy Decisional Conflict Scale" on 63 women with breast cancer in order to decide on choices for breast cancer treatment. The Cronbach alpha of the whole tool was reported to be 0.86 (23). In another study, Lidner et al. (2011) used this tool to decide on screening for prostate cancer. The total Cronbach alpha was calculated to be 0.834 (24).

In the present study, the internal consistency of the Scale of the " Low Literacy Decisional Conflict Scale" showed that all the questions of this tool roughly played the same role in the total score, and if one question were to be removed, the Cronbach's alpha would not significantly increase, therefore, all questions had acceptable reliability, and there was no need to remove or modify Scale questions.

One of the limitations of this study is the sample size. We were not able to test the validity of the distinction, as a result. Another limitation of this study is that we were not able to evaluate the level of health literacy of participants, although low health literacy is influenced by low literacy level. Therefore, it is recommended that future studies consider having a larger sample and evaluate the effect of low health literacy on the structure of the Scale.

Conclusion

Overall, the results of the present study indicate that the "Low Literacy Decisional Conflict Scale" has appropriate validity and reliability coefficients, short duration, and ease of implementation. Therefore, it is a valid tool for carrying out research in the field of decision making in Iran

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Conflict of interest

No conflict in interest.

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