Translation and Validation of Korean Version of the Menstrual Distress Questionnaire

Yaelim Lee, PhD, RN
Red Cross College of Nursing, Chung Ang University, Seoul, Korea, Republic of (South)
Susie Cho, MSN, RN
Red Cross College of Nursing, Chung-Ang University, Seoul, Korea, Republic of (South)
Eun-Ok Im, PhD, MPH, FAAN
Nursing, Duke University, Durham, NC, USA

Purpose: The purpose of this study was to describe both the translation and validation processes of a translated Korean version of the Menstrual Distress Questionnaire (MDQ-K). Because increasing numbers of people from diverse ethnic backgrounds are living within either one region or country, the need for cross-cultural and international collaborative nursing studies has been continuously highlighted (Lin, 2016). To minimize the risk to a study's validity, the appropriate use of understandable language is essential (Khalaila, 2013). If a researcher conducts a study in a non-English language and no well-validated translated instruments are available, he/she often needs to translate the instrument himself/herself. Although the importance of adequate translation and instrument testing prior to their use has been emphasized, many studies either continue to use arbitrarily translated instruments, which give little to no consideration to cultural components, or they use the translated version without first testing its quality (Squires et al., 2013). The Menstrual Distress Questionnaire (MDQ) is a frequently used instrument for assessing premenstrual symptoms (Lee & Im, 2015; Moos, 2010). Although a Korean version of the modified MDQ exists, it only uses selected items from the original MDQ, which limits its use (e.g., employing either the scoring system or interpretation guideline of the original MDQ and comparing findings of studies that used the original MDQ) (Kim, 2004). To overcome the abovementioned limitations, an official Korean version of the original MDQ, the MDQ-K, was developed and tested in this study.

Methods: The MDQ-K was developed in four steps: (1) obtaining permission to translate, (2) forward-and-backward translation, (3) expert review, and (4) pilot testing with bilingual students (Che, Hairi, & Chong, 2017; Squires et al., 2013). The expert review was performed by five professors from Korean nursing schools whose research focus is menstrual health. The pilot testing included 102 bilingual Korean female students who were studying in the U.S. The students were recruited between July and October of 2015 through online communities and were asked to answer both the original MDQ and the MDQ-K. In addition, the participants were asked questions related to menstrual health (e.g., age at menarche, gravidity, menstrual patterns) and degrees of acculturation using the Suinn-Lew Asian Self Identity Acculturation Scale. Descriptive analyses were reported using frequency, percentage, mean, and standard deviation. The reliability of the MDQ-K was calculated by analyzing its internal consistency using Cronbach's alpha, and the construct validity was assessed using a paired t-test.

Results: Content validity was achieved based on the expert review of the initial version of the Korean translated MDQ. The items "affectionate" (item 36) and "orderliness" (item 37) received low scores; therefore, they required revision of their Korean translation. The revised questionnaire was named the Korean version of the MDQ (MDQ-K). Through the pilot testing of the MDQ-K, the reliability of the questionnaire was determined using Cronbach's alpha, which was .96. From the findings of a paired t-test, the means of three items in the MDQ and MDQ-K were significantly different ($p < .05$): "restlessness" (item 22), "bursts of energy and activity" (item 40), and "blind spots and fuzzy vision" (item 46). There were significant correlations ($p < .001$) between each of the 46 items and the total scores of the MDQ and MDQ-K, with scores ranging between .572 ("dizziness and faintness") and .985 ("Total score").

Conclusion: The MDQ-K demonstrated acceptable psychometric properties, while three of the items (items 22, 40, and 46) may be open to further modification. Possible explanations for discrepancies on these three items between the MDQ and the MDQ-K include the following: (a) participants' English

proficiency levels being too low to fully understand those items in the original English version, (b) confusion regarding some of the medical terminologies used, (c) occurrence of survey bias, including either down-reporting or over-reporting, which is often seen when translating a single word, and (d) response bias, especially regarding demand characteristics, which were often observed in the survey participants. This study poses several implications for future nursing research and practice. First, in addition to the steps suggested in this study, a comprehensive validation process, following a rigorous translation process, is necessary before administering a translated questionnaire. Second, various factors should be carefully considered when administering either English or translated versions of a questionnaire to participants whose first language is not English (e.g., participants' English proficiency level. equivalence of translated questionnaire to the original language). Because we live in an era of supra-territoriality, where physical place is no longer meaningful, the importance of cross-cultural and international nursing studies will continue to grow. This study will serve as a guideline for researchers who intend to either conduct a study using either English or previously translated questionnaire to non-English speakers or plan to personally translate an English questionnaire for use in their study.

Title:

Translation and Validation of Korean Version of the Menstrual Distress Questionnaire

Keywords:

Menstrual Distress Questionnaire, cross-cultural research and translation and validation

References:

Che, C. C., Hairi, N. N., & Chong, M. C. (2017). A systematic review of psychometric testing of instruments that measure intention to work with older people. *Journal of Advanced Nursing.* doi:10.1111/jan.13265

Khalaila, R. (2013). Translation of Questionnaires Into Arabic in Cross-Cultural Research: Techniques and Equivalence Issues. *Journal of Transcultural Nursing, 24*(4), 363-370. doi:10.1177/1043659613493440

Kim, H. (2004). Perimenstrual symptoms of Korean women living in the USA: applicability of the WDHD(Women's Daily Health Diary) on prospective report. *Taehan Kanho Hakhoe chi, 34*(8), 1395-1401.

Lee, Y., & Im, E. O. (2015). Stress and Premenstrual Symptoms in Reproductive-Aged Women. *Health care for women international.* doi:10.1080/07399332.2015.1049352

Lin, H. C. (2016). Impact of nurses' cross-cultural competence on nursing intellectual capital from a social cognitive theory perspective. *Journal of Advanced Nursing, 72*(5), 1144-1154. doi:10.1111/jan.12901

Moos, R. H. (2010). *Menstrual Distress Questionnaire Manual, Instrument, and Scoring Guide* Retrieved from http://www.mindgarden.com/products/mdq.htm

Squires, A., Aiken, L. H., van den Heede, K., Sermeus, W., Bruyneel, L., Lindqvist, R., . . . Matthews, A. (2013). A systematic survey instrument translation process for multi-country, comparative health

workforce studies. *International Journal of Nursing Studies, 50*(2), 264-273.
doi:10.1016/j.ijnurstu.2012.02.015

Abstract Summary:

The need for cross-cultural and international collaborative nursing studies have been continuously highlighted. A detailed and rigorous step of translation and validation of Korean version of the Menstrual Distress Questionnaire are introduced in this study.

Content Outline:

1. Introduction 2. Background A. Translation and validation B. The Menstrual Distress Questionnaire 3. Method A. Obtaining permission to translate B. Forward-and-back translation C. Expert review D. Pilot testing with bilingual students 4. Results A. Sociodemographic data B. Expert review: content validity C. Pilot testing with bilingual students: reliability and construct validity 5. Discussion 6. Conclusion A. Implications for future nursing research and practice

First Primary Presenting Author

Primary Presenting Author

Yaelim Lee, PhD, RN
Chung Ang University
Red Cross College of Nursing
Assistant Professor
Dongjak-gu
Seoul
Korea, Republic of (South)

Professional Experience: 2011-2012, MSN (Adult-Gerontological Nurse Practitioner), School of Nursing, Univ. of Pennsylvania, Philadelphia, PA, USA 2012-2015, PhD, School of Nursing, Univ. of Pennsylvania, Philadelphia, PA, USA 2015-2016, Breast Cancer Nurse Specialist, Yeouido St. Mary's Hospital, Korea Catholic University, Seoul, South Korea 2017-present, Assistant Professor, Chung-Ang University, Red Cross College of Nursing, Seoul, South Korea
Author Summary: Dr. Yaelim Lee is Assistant Professor at College of Nursing, Chung-Ang University, Seoul, South Korea. She obtained her MSN and PhD from School of Nursing, University of Pennsylvania, Philadelphia, PA, USA. She worked as a research assistant and teaching assistant at School of Nursing, University of Pennsylvania. Also, before joining Chung-Ang University, she worked as a breast cancer nurse specialist at Yeouido St. Mary's Hospital, Catholic University in South Korea.

Second Author

Susie Cho, MSN, RN
Chung-Ang University
Red Cross College of Nursing
Research Assistant
Dongjak-gu
Seoul
Korea, Republic of (South)

Professional Experience: 2015-2016, MSN (Adult-Gerontological Nurse Practitioner), School of Nursing, Univ. of Pennsylvania, Philadelphia, PA, USA 2017-present, Research Assistant, Chung-Ang University, Red Cross College of Nursing, Seoul, South Korea

Author Summary: Ms. Susie Cho is a research assistant at College of Nursing, Chung-Ang University, Seoul, South Korea. She obtained her MSN from School of Nursing, University of Pennsylvania, Philadelphia, PA, USA.

Third Author

Eun-Ok Im, PhD, MPH, FAAN
Duke University
Nursing
Professor & Mary T. Champagne Professor
Durham NC
USA

Professional Experience: 9/2006-5/2011, Professor with tenure, School of Nursing, University of Texas, Austin 9/2007-5/2011, La Quinta Motor Inns. Inc. Centennial Professor in Nursing, University of Texas, Austin 6/2011-5/2016, Professor with tenure, School of Nursing, University of Pennsylvania 9/2011-5/2016, Marjorie O. Rendell Endowed Chair, School of Nursing, University of Pennsylvania 1/2013-5/2016, Associate Director, Center for Global Women's Health, University of Pennsylvania 9/2012-8/2014, Professor with tenure, School of Nursing, Duke University 6/2016-present, Mary T. Champagne Professor (University Distinguished Professor), School of Nursing, Duke University Have over 350 abstracts, book chapters, and articles (more than 160 refereed journal articles). Have over 270 invited or peer-reviewed conferences presentations. Have received over 17.5 million US dollars of research grants (9.1 million US dollars as the PI).

Author Summary: Dr. Eun-Ok Im is Mary T. Champagne Professor at School of Nursing, Duke University. She has gained national and international recognition as a methodologist and theorist in international cross-cultural women's health through more than 160 refereed journal articles and over 270 presentations. Dr. Im has obtained over 17.5 million dollars of research grants (9.1 million dollars as the PI). She has numerous awards including the 2014 International Nurse Researcher Hall of Fame Award.