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Original Article

Validation of the Thai Version of a Work-related Quality of Life Scale in the Nursing Profession

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ABSTRACT

Background: Currently available questionnaires for evaluating the quality of worklife do not fully examine every factor related to worklife in all cultures. A tool in Thai is therefore needed for the direct evaluation of the quality of worklife. Our aim was to translate the Work-related Quality of Life Scale-2 (WRQLS-2) into Thai, to assess the validity and reliability of the Thai-translated version, and to examine the tool's accuracy *vis-à-vis* nursing in Thailand.

Methods: This was a descriptive correlation study. Forward and backward translations were performed to develop a Thai version of the WRQLS. Six nursing experts participated in assessing content validity and 374 registered nurses (RNs) participated in its testing. After a 2-week interval, 67 RNs were retested. Structural validity was examined using principal components analysis. The Cronbach's alpha values were calculated. The respective independent sample *t* test and intraclass correlation coefficient were used to analyze known-group validity and test–retest reliability. Multistate sampling was used to select 374 RNs from the In- and Outpatient Department of Srinagarind Hospital of the Khon Kaen University (Khon Kaen, Thailand).

Results: The content validity index of the scale was 0.97. Principal components analysis resulted in a seven-factor model, which explains 59% of the total variance. The overall Cronbach's alpha value was 0.925, whereas the subscales ranged between 0.67 and 0.82. In the assessment results, the known-group validity was established for the difference between civil servants and university employees [F (7.982, 0.005) and *t* (3.351; $p < 0.05$)]. Civil servants apparently had a better quality worklife, compared to university employees. Good test–retest reliability was observed ($r = 0.892$, $p < 0.05$).

Conclusion: The Thai version of a WRQLS appears to be well validated and practicable for determining the quality of the work-life among nurses in Thailand.

1. Introduction

The assessment of the quality of nurses' worklife in a hospital working environment is comparable to the assessment process used in and for industry. In each hospital department, the health of workers is potentially at risk from the work itself (e.g., stressors); the environmental factors (e.g., pathogens, hazardous chemicals, ventilation inefficiency, and radiation); and the manner or timing of work (e.g., musculoskeletal disorders resulting from standing and sitting, shift work, and relatively long hours) [1–4]. The quality of medical care will be affected as nurses face these risks and obstacles [5,6]. A tool for evaluating the specific quality of worklife among nurses would help to pinpoint problems that need to be addressed, thereby reducing the health and occupational risks, improving the quality of nursing, and increasing the efficiency of health care services.

Quality of life instruments are typically used in countries in which there is no tool for evaluating the quality of worklife. For

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example, tools assessing the quality of life of patients receiving treatment are frequently used [7–10], but these tools do not fully examine all factors involved in the worklife. They are also limited when used to investigate the quality of life. For example, the quality of life scale used to assess the quality of life in patients with coronary artery disease that affect the brain has only one item in the subscale on health status; its reliability consequently cannot be tested [8]. The Thai version of the 36-question Short Form Health Survey (SF-36) questionnaire for evaluating the quality of life among patients with multiple sclerosis has an internal consistency (i.e., Cronbach's alpha coefficient of 0.7), except for questions about society [10]. The test properties of the Thai SF-36 questionnaire (second translation) can be used to measure the quality of life in a population of interest because of its strong reliability, except in the dimensions of vitality and role-emotional; thus, caution is required when interpreting the results [11].

Translated and widely used tools for assessing the quality of life in Thai people include the World Health Organization Quality of Life-BREF (WHOQOL-BREF), the SF-36, the Short Form Health Survey (12 questions; SF-12), and the Euro Quality of Life-5D (EQ-5D) [12]. Which tool is used depends on the purpose of the research. However, none of these questionnaires can be used to directly assess the quality of worklife. In many countries, including Thailand, there are in fact no standard tools for measuring the quality of worklife. There are instead tools for the comprehensive assessment of specific dimensions of the worklife (e.g., physical, psychological, social relations, and environment) and comparisons thereof [3,5,13,14].

The Work-related Quality of Life Scale (WRQLS) was first developed in England; its validity (i.e., Cronbach's α of 0.91) and reliability (i.e., Cronbach's α of 0.75–0.86) were verified among medical personnel in the United Kingdom [15]. In Singapore, where English is the official language, the WRQLS is a proven reliable tool for assessing the quality of the worklife of nurses; the researchers who tested it there suggested applying it to other medical personnel in Asia, after translating it into Asian languages [16]. The tool was then translated into Chinese [as the Work-related Quality of Life Scale-2 (WRQLS-2)] and further developed for assessing the quality of worklife [17]. The WRQLS-2 has seven subscales with 34 items, and it included 12 new items. The new subscale is "employee engagement". The overall scale uses a five-point Likert scale in which 1 point is "strongly disagree"; 2 points, "disagree"; 3 points, "neutral"; 4 points, "agree"; and 5 points, "strongly agree". The possible total scores ranged from 34 points to 170 points. The study found that the reliability (Cronbach's of 0.71–0.88) and validity (Cronbach's of 0.94) of the Chinese version of the tool was sufficient to assess the quality of worklife among nurses in China [17].

Thus, the objectives of the current research were to develop specific tools that are suitable for the Thai society and culture that can be used to assess the quality of work life and to create a Thai language-specific tool that may be adapted for assessing the worklife in non-health care careers in the future. Our related aims were to translate the WRQLS-2 into Thai, to assess the validity and reliability of our Thai-translated version of a quality of worklife evaluation tool, and to examine the accuracy of the tool *vis-à-vis* nursing in Thailand.

2. Materials and Methods

2.1. Translation of the Thai version of the WRQLS

Our translation primarily used the Guidelines of the Process of Cross-culture Adaptation of Self-report Measures, as proposed by Beaton and colleagues [18]. Four translators took part in the translation. Their backgrounds included translation, nursing, medicine, pharmacy, and teaching. All were fluent in English and Thai, some were professional translators, and some had studied overseas. Two translators were responsible for forward translation of the WRQLS-2 from English into Thai. The translations were performed independently and any discrepancies were resolved later by consensus. After the forward translation, 20 registered nurses (RNs) took a pretest to expose any errors, which were corrected. The forward translation was then redone. The backward translation was performed by translators who had never seen the original English version of the WRQLS or WRQLS-2. They were similarly advised to translate the Thai manuscript into English independently, and then to resolve any discrepancies by consensus. The translated script and a report of the original English version were sent (via electronic mail) to the developer (Professor Darren Van Laar) in the United Kingdom to ensure semantic and conceptual equivalence. A bilingual Thai doctorate student of Professor Van Laar was invited to examine all translated outcomes (i.e., the translation into Thai and the back-translation into English). The researcher coordinated all communications.

Because of potential differences in the quality of working life (QWL) parameters between British and Thai nurses, it was necessary to assess the content validity of the translated Thai version WRQLS-2 to ensure that the items were not unfamiliar to Thai nurses and their occupational reality. Six nursing experts were therefore invited to assist. All experts possessed professional titles and had extensive experience in nursing and management. The experts were asked to rate the degree of relevance of each item using a four-point scale (1 point was "not relevant"; 2 points, "somewhat relevant"; 3 points, "relevant but needs minor revision", and 4 points, "very relevant") and to comment on item clarity, simplicity, and/or ambiguity. After content evaluation, 20 RNs were asked to retake the pretest.

2.2. Participants and data collection

The research was conducted at Srinagarind Hospital, the Faculty of Medicine at the Khon Kaen University (Khon Kaen, Thailand). This is a supratertiary care hospital providing health care services to the residents of the 20 provinces of the northeastern region of Thailand.

Between March 10, 2012 and April 11, 2012, data were collected for construct validity. Between April 22, 2012 and May 1, 2012, test–retest reliability was conducted. Prior to data collection, a brief introduction about the research was provided to the head nurse and/or to nurses assigned by the head nurse. These individuals disseminated the information within the hospital. Full-time RNs with at least 1 year of experience were eligible. After applying the inclusion/exclusion criteria, 1,024 RNs were eligible and subdivided into groups. Only 400 RNs were selected through multistage sampling. In brief, 1,024 RNs were initially divided into two groups: (1) inpatient department (IPD) RNs and (2) outpatient department (OPD) RNs. Four hundred RNs were then selected: 70% were IPD RNs and 30% were OPD RNs. Cluster sampling was used to select 280 IPD RNs from 16 IPD wards and 120 OPD RNs from 10 OPD wards.

Along with the Thai version of the WRQLS-2, a demographic questionnaire was distributed by the head nurse. The respondents sealed their completed questionnaires in an envelope prior to returning them to the head nurse, who then hand-delivered them to the researcher. After excluding incomplete questionnaires, 374 completed questionnaires remained for analysis. Two weeks later, 100 of the 374 respondents were again selected by multistage sampling for a retest. Briefly, as was performed previously, 100 RNs were selected from among the initial 374 respondents (70% from among the IPD RNs and 30% from among the OPD RNs). Seven