



Feature Article

Psychometric testing of Korean versions of self-efficacy and outcome expectations for restorative care activities scales



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ABSTRACT

This study aimed to examine the validity and reliability of Korean versions of the Nursing Assistant Self-Efficacy for Restorative Care Scale, and the Nursing Assistant Outcome Expectations for Restorative Care Scale. Psychometric testing was performed with 697 direct care workers in long-term care facilities in South Korea. Data were analyzed using SPSS/WIN 21.0, AMOS 22.0, and WINSTEPS 3.68.2. There was evidence for content validity. Factor loading in the Korean versions of the Nursing Assistant Self-Efficacy for Restorative Care Scale was 0.66–0.94, and Nursing Assistant Outcome Expectations for Restorative Care Scale was 0.43–0.77. Scores on the Korean versions of the Nursing Assistant Outcome Expectations for Restorative Care Scale correlated positively with scores on a scale of knowledge of restorative care. Additionally, Rasch model analysis of the K-NASERC and K-NAOERC indicates acceptable item data fit. These results indicated that the Korean versions of the Nursing Assistant Self-Efficacy, and Outcome Expectations for Restorative Care Scale are satisfactorily valid and reliable for the measurement.

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Introduction

In 2003 in Korea, 13,308 elderly people were admitted to 171 aged care facilities; by 2013, this population had increased to 102,747 people across 2497 facilities.¹ In the United States, the number of elderly people living in nursing homes was approximately 1,480,000 in 2000, and 1,383,000 in 2012,² indicating a negligible change in the population of elderly people living in nursing homes over 10 years³; however, it is well known that many elderly people reside in nursing homes in the U.S. These figures reflect an increase in the elderly population living in long-term care facilities due to age-related diseases such as dementia, Parkinson's disease, and stroke, which impede independent daily living in the elderly population.³

Most elderly people who are admitted to long-term care facilities have physical or mental health problems, and are receiving assistance from nurses or direct care (DC) workers for a large part of their daily life.⁴ Accordingly, following admission to long-term care

facilities, these people may experience a functional decline in activities of daily living and increased dependence.^{5,6}

This deterioration of the admitted elderly's physical function and capacity to perform daily activities affects DC workers. DC workers provide a complete form of care, rather than helping the admitted elderly to move, dress and wash themselves as much as they are able.⁷ DC workers provide full restricted assistance, or do not encourage the admitted elderly to perform daily activities or participate in physical activities—which can have negative effects, such as loss of ability to perform daily activities or regression.⁸ In this context, restorative care, which has been termed “Function-Focused Care” (FFC),⁷ is a philosophy of care that focuses on evaluating older adults' underlying ability and functioning, and helping them spend more time engaging in physical activity and maintaining their functional abilities.⁹ Examples of providing FFC include walking a resident to the bathroom rather than using a bedpan, and engaging a fully dependent resident in hand-over-hand feeding.¹⁰ This may limit the gradual deterioration of physical function, and help the individual to function independently as much as possible in daily life. Also, this type of care ultimately aims to maintain the admitted elderly's dignity and psychological well-being.⁷

Preceding studies have found that, among DC workers, knowledge of restorative care and self-efficacy are positively correlated with higher outcome expectations, and that self-efficacy is

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positively correlated with greater job satisfaction.^{11,12} Interventions that improve DC workers' self-efficacy and knowledge of restorative care may thus increase DC workers' care outcome expectations and improve results in restorative care.¹³ It is therefore critical to measure care providers' self-efficacy and outcome expectations before developing and evaluating interventions targeting restorative care.

In this context, the Nursing Assistant Self Efficacy for Restorative Care Scale (NASERC) and the Nursing Assistant Outcome Expectations for Restorative Care Scale (NAOERC) were developed and verified as valid and reliable measures for use among DC workers in the United States.^{11,14} For the purpose of applying the NASERC and NAOERC to long-term care facilities in Korea, we evaluated the Korean versions of these scales as valid and reliable tools when used with Korean DC workers. Thus, this study aimed to test the psychometric properties of the Korean version of the NASERC and NAOERC.

Methods

Design

This study used a cross-sectional design analyzing questionnaire responses to test the validity, reliability, and item evaluation of the K-NASERC and K-NAOERC, which are Korean versions the NASERC¹¹ and NAOERC.¹⁴

Sample

The study was a cross-sectional study on 697 DC workers in 69 facilities. Participants were selected through convenience sampling targeting long-term nursing facilities; participants were located in two cities and eight provinces in Korea. This ensured an adequate variety of originating locations in the collected data. The authors requested participation in this study from 124 nursing facilities, via telephone. Of these, 71 facilities agreed to participate in this study. A total of 80 DC workers, from three facilities, were approached by trained research assistants, who administered the questionnaire and collected them from participants. In addition, a consent form and structured questionnaire was distributed to the remaining 68 facilities, with a combined total of 752 DC workers, via postal service. Responses were received from 66 facilities and 634 participants, resulting in a response rate of 84%. Thus, a total of 714 questionnaires and written consent forms were collected from face-to-face and mail survey participants. Of the returned questionnaires, 697 were analyzed, with 17 excluded due to insufficient data.

Data collection

This study examined DC workers in 68 elderly nursing facilities in Korea from December 2013 to March 2014. First, elderly nursing facilities in Korea were randomly selected from two cities, and eight provinces, resulting in 124 facilities that were approached for participation in the study. Approval was obtained from facility administrators via telephone following explanation of the study's objectives and procedures; 68 facilities then voluntarily participated. Structured questionnaires were used to collect data; in facilities that permitted visitation, the researchers explained the study's objectives and procedures to participants in person. If visitation was impeded, questionnaires were distributed by post. DC workers were eligible to participate if they had worked in long-term care facilities for at least six months, and could read and write Korean. Participating nursing homes cared for the following number of individuals in the following percentages: 50–99 individuals (46.4%), <50 (27.7%), 150–199 (11.2%), ≥200 (10.2%), and 100–149 (4.5%).

Ethical consideration

This study was conducted after obtaining approval (No. 63–12) through deliberation from the institutional review board of the researchers' university, for the ethical protection of participants. The participants completed informed consent before participating.

Measurements

Korean version of the Nursing Assistant Self-Efficacy for Restorative Care Scale

This study used the NASERC¹¹ to measure self-efficacy in DC workers providing restorative care to the admitted elderly. This scale measures DC workers' self-efficacy in providing restorative care. This scale is comprised of 10 questions in two subscales: "NASERC for functional skills" (six questions), and "NASERC for challenges associated with restorative care" (four questions). Questions in "NASERC for functional skills" examine motivating the admitted elderly to bathe, dress, eat meals, exercise, and excrete; questions in "NASERC for challenges associated with restorative care" examine limitations in worker resources and the admitted elderly's declining to engage in activities. Responses used a 10-point Likert scale; total scores were out of 100. Higher scores indicated greater self-efficacy regarding restorative care. Testing of construct validity at the time of the scale's development gave the following results: for "NASERC for functional skills," $\chi^2 = 27.2$, NFI = 0.95, RMSEA = 0.12; for "NASERC for challenges associated with restorative care," $\chi^2 = 4.2$, NFI = 0.99, RMSEA = 0.01. Regarding reliability, the scale's Cronbach's α at the time of development was 0.74; in this study, the scale's Cronbach's α was 0.94.

Korean version of the Nursing Assistant Outcome Expectations for Restorative Care Scale

This study used the NAOERC¹⁴ to measure outcome expectations in DC workers administering restorative care to the admitted elderly. This scale consists of nine questions concerning expectations regarding outcomes of encouraging the admitted elderly to perform daily activities to maintain function, and regarding outcomes of regular exercise to reduce falls and joint pain. Responses used a 5-point Likert scale; total scores were out of 45. Higher scores indicated more positive expectations regarding restorative care outcomes. Testing of construct validity at the time of the scale's development gave the following results: $\chi^2 = 38.6$, NFI = 0.97, RMSEA = 0.07. The scale's Cronbach's α at the time of development was 0.82; in this study, the scale's Cronbach's α was 0.89.

Knowledge of restorative care

This study used a restorative care knowledge scale developed by Resnick et al¹⁵ to measure knowledge of restorative care of the admitted elderly in DC workers. This scale consists of 11 questions examining the objectives of restorative care, provision of minimal help, improving incontinence in the admitted elderly, and program participation. Questions were multiple-choice; one point and zero points were given for correct and incorrect answers, respectively; total scores were out of 11. Higher scores indicated greater knowledge of restorative care.

Study procedure

Scale translation

The authors forward-translated the original scales into Korean after obtaining the permission of the NASERC and NAOERC scales' developer via email. After draft translation, three gerontological nursing major professors made modifications to sentences that were awkward or needed to reflect cultural context. In this process,

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