



A comprehensive approach to psychometric assessment of instruments used in dementia educational interventions for health professionals: A cross-sectional study



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ABSTRACT

Background: Suboptimal care for people with dementia in hospital settings has been reported and is attributed to the lack of knowledge and inadequate attitudes in dementia care among health professionals. Educational interventions have been widely used to improve care outcomes; however, Chinese-language instruments used in dementia educational interventions for health professionals are lacking.

Objectives: The aims of this study were to select, translate and evaluate instruments used in dementia educational interventions for Chinese health professionals in acute-care hospitals.

Design: A cross-sectional study design was used.

Participants and setting: A modified stratified random sampling was used to recruit 442 participants from different levels of hospitals in Changsha, China.

Methods: Dementia care competence was used as a framework for the selection and evaluation of Alzheimer's Disease Knowledge Scale and Dementia Care Attitudes Scale for health professionals in the study. These two scales were translated into Chinese using forward and back translation method. Content validity, test–retest reliability and internal consistency were assessed. Construct validity was tested using exploratory factor analysis. Known-group validity was established by comparing scores of Alzheimer's Disease Knowledge Scale and Dementia Care Attitudes Scale in two sub-groups. A person-centred care scale was utilised as a gold standard to establish concurrent validity of these two scales.

Results: Results demonstrated acceptable content validity, internal consistency, test–retest reliability and concurrent validity. Exploratory factor analysis presented a single-factor structure of the Chinese Alzheimer's Disease Knowledge Scale and a two-factor structure of the Chinese Dementia Care Attitudes Scale, supporting the conceptual dimensions of the original scales. The Chinese Alzheimer's Disease Knowledge Scale and Chinese Dementia Care Attitudes Scale demonstrated known-group validity evidenced by significantly higher scores identified from the sub-group with a longer work experience compared to those in the sub-group with less work experience.

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Conclusions: The use of dementia care competence as a framework to inform the selection and evaluation of instruments used in dementia educational interventions for health professionals has wide applicability in other areas. The results support that Chinese Alzheimer's Disease Knowledge Scale and Chinese Dementia Care Attitudes Scale are reliable and valid instruments for health professionals to use in acute-care settings.

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What is already known about the topic?

- Health professionals' knowledge and attitudes in dementia care are indispensable and form the core components of dementia care competence.
- It is evident in the literature that the relationship between health professionals' knowledge and attitudes in dementia care is unstable.
- The English versions of Alzheimer's Disease Knowledge Scale and Dementia Care Attitudes Scale are reliable and valid scales for measuring health professionals' knowledge and attitudes in dementia care.

What this paper adds

- Using dementia care competence for health professionals as a framework, this study demonstrates a comprehensive and practical approach to selecting and evaluating existing dementia care knowledge and attitude scales relevant to the population under study.
- Drawing on the literature about the unstable relationship between health professionals' knowledge and attitudes in dementia care, this study contests the conventional method that used a knowledge scale to test convergent validity of an attitude scale or vice versa.
- Using person-centred care as the gold standard to test concurrent validity of a knowledge scale and an attitude scale, this study demonstrates efficiency by assessing two related scales in a single study.

1. Introduction

Dementia, including Alzheimer's disease, is a syndrome caused by a degenerative brain disease that affects cognitive functioning in areas such as emotional and social behaviour (Ballard and Bannister, 2010). It is estimated that 35.6 million people worldwide were living with dementias in 2010, and this number will double every 20 years (Alzheimer's Disease International, 2009). Among this population, 20% live in China, meaning greater pressure on the Chinese healthcare system and a higher level of demand for health professionals to provide competent dementia care (Liu et al., 2013; World Health Organization, 2012). Most people with dementia also have comorbidities and are frequently admitted to hospitals and cared for in a variety of inpatient settings (Gandeha et al., 2012; Wang et al., 2013). This patient distribution pattern suggests that not only health professionals in geriatric wards but also health professionals in various adult wards will encounter

patients with dementia in their daily practice. In China and other Asian countries the number of hospitalised dementia patients is higher because of under-developed aged care and transitional care facilities, and the concept of filial piety, which may prevent families from placing their aged family members into care facilities outside of the hospital setting (Kang et al., 2011; Wang et al., 2013). These facts strongly suggest that health professionals in the hospital setting need to be well prepared in core dementia care competence (Otero et al., 2009; Traynor et al., 2011).

Adverse events and suboptimal care of hospitalised older people with dementia were identified and attributed to the lack of knowledge and inadequate attitudes in dementia care among health professionals (Baillie, 2012; Williams, 2011; Xiao et al., 2013). Educational interventions for health professionals are widely used to improve care outcomes for this patient population (Galvin et al., 2010; Teodorczuk et al., 2010). Validated scales used to assess health professionals' knowledge and attitudes in dementia care were viewed as prerequisites for educational initiatives (Smyth et al., 2013; Teodorczuk et al., 2010). To date, however, there are no validated measures specifically designed to evaluate dementia educational interventions or professional development programmes for health professionals in acute-care hospitals in China. A study on how to select and validate existing scales in a global context when planning educational intervention to improve health professionals' competence in dementia care is needed.

Studies have found that health professionals' poor knowledge and inadequate attitudes in dementia care were associated with unmet care needs for hospitalised patients with dementia (Baillie, 2012; Williams, 2011). For example, unfamiliar, busy, noisy and crowded hospital environments often triggered confusion, delirium and behavioural problems for patients with dementia (Inouye et al., 2000; Tucker et al., 2006). Health professionals who are knowledgeable about dementia care are more likely to take action to remove these triggers or to use person-centred care strategies to identify and meet patients' needs (Tucker et al., 2006; Williams, 2011). The positive outcomes of feeling rewarded and the sense of achievement in improving patients' quality of life are two of the desirable competencies in dementia care (Otero et al., 2009; Turner et al., 2004). Those who are lacking knowledge on dementia, however, may blame patients and view them as troublemakers or use control strategies such as physical and chemical restraints that contribute to the exacerbation of behavioural problems, adverse events, functional decline and a greater care burden on the caregivers (Baillie, 2012; Nilsson et al., 2013). These adverse events reinforce negative attitudes in dementia care

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