Original Article

Nursing culture assessment tool (NCAT): Empirical validation for use in long-term care

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ABSTRACT

Background: Capturing general aspects of the occupational subculture of nursing is needed in long-term care (LTC) given its latent influence on the quality of care that residents receive and on the ability of nursing staff (licensed nurses and certified nursing assistants) to implement evidence-based practice innovations. The psychometrically validated Nursing Culture Assessment Tool (NCAT) provides a comprehensive assessment using six dimensions (teamwork, communication, satisfaction, professional commitment, behaviors, and expectations), and evaluation of these dimensions could help positively reshape the culture before any change implementation.

Purpose: Aims were to: (1) assess the validity and reliability of the NCAT across nursing staff in a single type of clinical setting – LTC facilities, and (2) present a refined theoretical model of the interaction of culture and practice implementation.

Methods: A cross-sectional, exploratory investigation of the NCAT in LTC settings was conducted. Empirical construct validity of the 19-item NCAT's six subscales was investigated by confirmatory factor analysis using a sample of licensed nurses and certified nursing assistants ($n = 318$).

Results: The model fit was judged using the comparative fit index (0.94) and standardized root mean-square residual (0.05). Cronbach's alpha correlation coefficients of items in each subscale and in the overall scale ranged from 0.76 to 0.94.

Conclusion: A summary of the NCAT development and report on its psychometric properties when administered in LTC settings is provided, extending previous findings of the NCAT's enhanced stability when used in assessing nursing staff perceptions in LTC and by demonstrating that the NCAT is a reliable and valid psychometric screening tool for nursing culture.

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Quality nursing care in the 16,100 long-term care (LTC) facilities in the U.S. is a national priority [1,2]. The identification of evidence-based innovations to improve LTC — and strategies that ensure their adoption and sustainability — is currently recognized as an essential element of implementation research. The occupational subculture of nursing has a latent influence on the quality of care that LTC residents receive and on the ability of nursing staff, which consists of both licensed nurses and certified nursing assistants (CNAs), to implement evidence-based practice innovations. A collegial relationship between these sets of workers is the cornerstone of individualized patient care. To support implementation research in LTC settings, we extended previous work on the psychometric properties of the Nursing Culture Assessment Tool (NCAT) [3] that was conducted among nurses in multiple care settings, to now focus on its validity and reliability specifically among LTC nursing workgroups and its contribution to refining a theoretical model of nursing's organizational subculture.

1. Background

1.1. Implementation science

Implementation research is the scientific study of methods that promote the systematic uptake of research findings or evidence-based practices, with a focus on what happens after the initial adoption of the innovation and the factors that influence sustained adoption and modification [4]. The field of implementation research has grown due to the need to make informed decisions regarding effective clinical policies, programs, and practices. Deployment of new practice innovations or guidelines can disturb current workflow and impair productivity in healthcare systems. Successful deployment is dependent upon not only the function and features of the innovation but also the manner in which the system change is implemented. What, how, and why do specific interventions and innovative approaches work in "real world" settings, and what implementation methods improve outcomes? Implementation science is concerned not only with knowledge development but also with the users of the innovation and the context of its implementation. [4]

Implementation frameworks used to guide innovation deployment in health services [5–10] tend to focus on the sources and the nature of innovations available to staff rather than on the role staff members play as pivotal contributors to adoption and dissemination. The occupational subculture of nursing is the "black box" of the implementation science movement, even though nursing personnel function as pivotal elements and often leaders of implementing evidence-based practices in all types of settings and must be adopters [10] of new evidence/interventions.

1.2. Theoretical framework of a nursing culture

The nursing culture within any healthcare facility or unit is an occupational subculture of the overall organizational culture. Existing instruments for measuring organizational culture have had several limitations: they lack agreement on the

essential dimensions of culture that should be measured [11], they focus on environmental influences on culture rather than how the workers' relationships reflect culture, their measurement capabilities are often limited to a specific task application, and they typically focus on organizational culture, not occupational subcultures such as the nursing culture [12–14]. Nursing culture is comprised of the behavior of the workgroup within the organization and the meanings that the staff members attach to their work and worker relationships. Culture includes the values, visions, norms, nomenclature, systems, symbols, beliefs, and habits that occur within the workgroup. It is also the pattern of such collective behaviors and assumptions that are taught to new members as a way of perceiving, thinking, and even feeling. Nursing culture affects the way nursing staff and other groups interact with each other, with patients and/or residents, and with various stakeholders.

The Nursing Culture Assessment Tool (NCAT) was developed in response to the need to assess nursing's occupational subculture and was initially validated in a cross-sectional study using a sample of nurses from across a variety of healthcare workplace settings, including LTC [3]. Administering the NCAT to a homogenous nursing staff population within long-term care enabled additional psychometric testing to further assess functionality of the NCAT's dimensions and ascertain whether the reliabilities of NCAT subscales would improve.

Nursing culture was manifested along six dimensions (Fig. 1): behaviors, expectations, teamwork, communication, satisfaction, and professional commitment [3]. These dimensions reflect shared values, beliefs, norms, rituals, and other assumptions and meanings that guide the actions and interactions of nursing staff in the service of quality care outcomes [15]. The nursing culture gives rise both to the goals pursued by members of this group and to their views of standards of behavior appropriate for achieving these goals.

1.3. The long-term care setting

In LTC, the context of care plays a key role in evidence-based practice changes and implementation of research innovations for at least four reasons. First, quality outcomes rely on the structure and function of each element in LTC's multidimensional system, including the roles and influence of government entities, private providers, staff, and family members. Second, the LTC setting poses a further challenge to system change because it is both a clinical and a social setting. Some LTC facility environments enhance the social setting by de-emphasizing the institutional nature of the environment as much as possible and personalizing resident spaces to recognize individual resident autonomy and support a more homelike situation. Third, LTC services are labor intensive, with the quality of care depending largely on the performance of the care giving personnel. Thus, staff characteristics and interactions are critical structural elements contributing to the residents' quality of life and care provided and to the successful execution and uptake of evidence-based practice in LTC settings. Finally, these authors suggest that nurse-sensitive care quality indicators such as pressure ulcers (PrU) and