

ORIGINAL**Criterion-related Validity of the Perceived Inventory of Technological Competency as Caring in Nursing (PITCCN) in Acute Care Settings**Mie Miyamoto¹⁾, Hirokazu Ito²⁾, Misao Miyagawa³⁾, Yuko Yasuhara²⁾, Tetsuya Tanioka²⁾, and Rozzano Locsin²⁾¹Department of Nursing, Tokushima Prefectural Miyoshi Hospital, Tokushima, Japan., ²Department of Nursing, Institute of Biomedical Sciences, Tokushima University Graduate School, Tokushima, Japan., ³Department of Nursing, Faculty of Health and Welfare, Tokushima Bunri University, Tokushima, Japan

Abstract : The Perceived Inventory of Technological Competency as Caring in Nursing (PITCCN) based on Locsin's theory of Technological Competency as Caring in Nursing (TCCN, 2005) was developed (Kato *et al.* 2016) and revised by Miyamoto *et al.* (2017). The purpose of this study was to verify criterion-related validity of PITCCN using the Practice of Caring Behavior Questionnaire (PCBQ, Shigehisa, 2007). The study was approved by the Ethical Review Board of Tokushima University Hospital. Data were collected from September 2017 to October 2017. Of the 402 questionnaire copies distributed, only 299 copies were returned and analyzed to determine correlations between total score value and Mean Factor Point of each factor for PITCCN and PCBQ. These were analyzed using Pearson correlation coefficients. Statistical significance was at .01 levels. Strong positive correlation coefficient was obtained between total score values ($r=.76$, $p<.01$) and factors of PITCCN and PCBQ ($r=.19$ to $.68$, $p<.01$), except the PITCCN's factor 3: "Utilization of information obtained from technology and continuous knowing" and PCBQ's factor 6: "Enriched relationships between patient and nurse", ($r=.13$, not significant). From these results, the criterion-related validity of PITCCN as the inventory of TCCN could be confirmed. *J. Med. Invest.* 66 :42-45, February, 2019

Keywords : Technological competency, Perceived Inventory, Caring, Nursing practice, Criterion-related validity

INTRODUCTION

Since Mayeroff (1971) described "caring" in his book (1), these Ingredients of Caring has attracted attention in the nursing discipline as evidenced by its use as foundation of curriculum in various educational institutions and in hospital institutions as well. Unfortunately, the dynamic essence of nursing as caring has led to different terms such as care, care-giving, care-receiving, care-cure, nursing care, etc. Oftentimes, these terms are used interchangeably, then promoting confusion and thereby acknowledging the concept of caring as one of the least understood aspects of nursing (2).

Care is a powerful and dynamic force towards understanding the totality of human behavior in health and illness. Action modes related to care which are culturally-based, and maintained, influence beneficial health outcomes. Care needs to be understood and actualized in diverse and specific cultural contexts (3). Leininger (4) declared that culture is the broadest, most comprehensive, holistic and universal feature of human beings and care is predicted to be embedded in cultures.

In Japan, Sato *et al.* (5) described the key words forming the core of caring as "self-actualization, self-development, mindfulness, empathy and human relationship." However, with 'technological competency as caring in nursing' the link between technology and caring in nursing as coexisting harmoniously in the moment (Locsin, 2005, p. 6) has created this caring practice view

that today, requires measurement to determine its value in practice.

Caring is an important and indispensable concept (6) in nursing; however, it is difficult for non-nurses to understand its ontology or nature of being (7). Katsuhara (8) has also declared that in the current nursing situation, the concept of caring in advanced nursing practice is also challenging to understand such as the scope and practice of nurse specialists. Therefore, when the thoughts and actions of caring expressions by nurses are visualized and measured, this may facilitate an easier way for others to understand what is caring in nursing as expert nursing practice.

Watson (9) has provided the essential tools for assessing and measuring caring in nursing for nurses. These measurements address quality of care, patient, client, and nurse perceptions of caring, and caring behaviors, the abilities, and its efficacy. Two of these instruments are the Caring Assessment Report Evaluation Q-sort (CARE-Q) (10), and the Caring Behaviors Inventory (CBI) (11). Both are introduced as measurements for evaluating the recognition of nurses' caring behaviors.

In addition, another instrument that measures caring in nursing, specifically the expression of technological competency as caring in nursing is the Technological Competency as Caring in Nursing Instrument (TCCNI) (12-14). Even with this recent instrument, none exists that relates to technological competency as caring in nursing considering Japanese culture, social influences, and nursing practice. For these critical socio-politically and culturally-based reasons, Kato *et al.* (2016) (15) developed and tested the Perceived Inventory of Technological Competency as Caring in Nursing (PITCCN) in the intensive care unit.

The purpose of this study was to verify criterion-related validity of PITCCN by using the Practice of Caring Behavior Questionnaire (PCBQ, Shigehisa, 2007) (16).

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