Development of Thai Nurses' Caring Behavior Scale

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Abstract : This study aimed to develop a Thai nurses' caring behavior scale and test its psychometric properties. Construction of the Thai Nurses' Caring Behavior Scale (TNCBS) consisted of two phases. Phase I involved identifying the meaning and dimensions of Thai nurses' caring behaviors; generating an item pool; providing the format for measurement; review of items for content validity by experts; testing for internal consistency and stability; and, examining face validity. Information from these activities lead to development of a 63 item instrument, consisting of 6 dimensions (effective communication; respect; support; being with; doing for; and, utilizing professional knowledge and skills), that used a 4 point Likert-like format response pattern.

Phase II involved testing the psychometric properties of the TNCBS. Seven hundred and fifty eight professional nurses from 10 institutions, including one university teaching hospital, two regional hospitals, three general hospitals and four community hospitals, responded to the 63 item scale. Explanatory factor analysis with varimax rotation was used to analyze the scale's construct validity and found to be acceptable. Due to redundancy of some items, the final version of the TNCBS was reduced to 57 items. Cronbach's alpha coefficient of the overall scale was 0.98 and that of the six subscales was 0.86 to 0.93. The results indicated acceptable validity and reliability of the final version of the scale.

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Background

Caring is often regarded as a significant concept in the science and art of nursing. It has been recognized nurses sustain caring under any circumstance, and caring is an integral part of a nurse's attitude as a professional, as well as an individual. Thus, caring requires personal, social, moral and spiritual engagement on the part of a nurse, as well as commitment to self and others.[1] According to Watson,[2] caring occurs

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every time a nurse comes into contact with a client and can be observed through the behaviors of the nurse while providing care for the client. Caring behaviors include, but are not limited to: actions, words, cognition, body language, feelings, thoughts, intuition, movement, gestures, looks, acts, procedures, information and touch. Through these caring behaviors, clients experience being cared for. Leininger[3] addresses the idea that caring behaviors vary with features of the social structure in any designated culture. In addition, caring behaviors have been reported to be beneficial both to nurses and patients.[4-6]

In Thailand, nurses recognize the importance and necessity of caring behaviors in their practice. Their practice of caring is based upon the ethics and morality Thai nurses gain from their Buddhist disciplines, the nursing profession and their experience in caring for clients. Nursing organizations, such as the Thailand Nursing and Midwifery Council, Thai Nursing Association, and International Council of Nursing,[7] encourage the practice of caring behaviors, as well as monitor nurses and nurse midwives providing care for clients. In addition to these organizations, health centers enforce and help nurses practice within a standard of care and code of nursing ethics.[8] However, claims regarding nurses' caring behaviors[9-10] have been made that need to be addressed in a manner that can be readily understood by nurses, clients and the public. Thus, a culturally sensitive means of measurement of Thai nurses' caring behaviors is needed.

Tools for measuring Thai nurses' caring behaviors are limited. Those available include the: Caring Assessment Report Evaluation Q-sort (CARE-Q);[11] Caring Dimension Inventory (CDI);[12] and, Caring Behaviors for Dying Patients of Thai Nurses (CDP) Scale.[13]

The most frequently used instrument for assessing caring, has been the CARE-Q, which was developed, in the 1980's, from knowledge about caring. The CARE-Q is designed to measure the importance of nurses' caring behaviors and examine differences and similarities of patients and nurses' perception of nurses' caring behaviors. However, it does not assess the frequency of nurses' caring behaviors while caring for a patient. In addition, it has to be modified to fit the context of the nurses' practice when used outside its country of origin.

The Caring Dimension Inventory (CDI)[12] was developed from empirical studies of *care* and *caring* conducted between 1983-1993, through incorporation of Leininger's Major Caring Taxonomic Constructs (MCTC),[12] and Grobe and Hughes's Nursing Intervention Lexicon and Taxonomy (NILT).[12] Although the CDI seeks to describe general categories of care, the item, "Nurse shares personal problems with patient," is inappropriate for use in the Thai culture because such nurse behavior may increase patients' suffering. Thai nurses, who are Buddhists, are taught not to talk about or show their feelings in public, so as not to inflict their feelings on others.[14]

The Caring Behaviors for Dying Patients of Thai Nurses (CDP) Scale[13] was developed based on Watson's caring theory[15] and Kubler-Ross's conception of human responses of dying patients.[16] Even though the CDP scale can be used to assess Thai nurses' caring behaviors, it is specific to care of dying patients and cannot be used in other situations of patient care.

Results of prior qualitative studies reflect the current picture of nurses' caring behaviors via investigation of the real life experiences of practicing nurses.[17-19] Current knowledge regarding nurses' caring behaviors stimulates one to question the relevance of the available measures of nurses' caring behaviors, particularly those of Thai nurses. The purpose of this study, therefore, was to develop an instrument to measure Thai nurses' caring behaviors and test its psychometric properties. It was hoped the instrument would enable researchers and administrators to assess and evaluate Thai nurses'

caring behaviors. Output from this assessment and evaluation could assist in indicating the quality of nursing practice provided within a particular unit or institution.

Method

Study settings and sample. The study was approved by the: Research Ethics Committee of the Faculty of Nursing, Chiang Mai University; Hospital Directors of the two hospitals, used in Phase I; and, Research Ethics Committees of each of the ten hospitals, used in Phase II. Hospitals used in Phase II were selected to obtain a heterogeneous sample of nurses.[20] All hospitals used as data gathering sites were located in Northern Thailand. None of the hospitals used in Phase I were used during Phase II.

The sample consisted of two types of subjects (patients and professional nurses). Subjects were informed: about the purpose of the study; what their particular involvement would entail; their participation was voluntary; they could withdraw from the study at any time without negative repercussions; and, their anonymity and confidentiality would be maintained. In the event they had questions, the names and addresses of the investigators were provided. Those consenting to participate were asked to sign a consent form.

Phase I included 37 patients from medical, surgical, orthopedic, obstetrical and gynecological units at one regional hospital, who participated in defining the meaning and dimensions of caring behavior. Selection criteria included being a patient who was: over 18 years of age; fully conscious; able to provide experiential information; and hospitalized on a medical, surgical, orthopedic, obstetrical or gynecological clinical unit for at least one day. Head nurses of the clinical units provided names of potential patient subjects, who then were purposively selected by the primary researcher. In addition, during Phase I, 60 nurses, from one regional hospital and one community hospital, participated in testing the instrument's internal consistency and stability. Ten of these nurses examined the face validity of the instrument. Criteria for selection included being employed in one of the two hospitals used as a data gathering site, and having, at least, one year of nursing experience.

Names of potential nurse subjects also were provided by head nurses of each clinical unit. The number of nurses selected from the two hospitals was proportionate to the number of nurses working in each hospital. The regional hospital had 800 nurses employed, while the community hospital had 60. Thus, 50 nurses were obtained from the regional hospital, while 10 were obtained from the community hospital. During this phase, seven nurses failed to successfully complete the second administration of the instrument. Thus, data from only 53 nurses were usable. Of the seven nurses who were unavailable for the second administration of the instrument, 5 were from the regional hospital and 2 were from the community hospital. Both patients and nurses, in Phase I, who met the selection criteria, were invited by the primary investigator to participate in the study.

For Phase II, 810 nurses from 10 institutions (one university, two regional, three general and four community hospitals) were asked to participate in examining psychometric properties of the instrument. A total of 758 (96.06%) provided complete and usable responses. The number of professional nurses sampled for Phase II was proportional to the number of professional nurses' employed within each hospital[21] (see **Table 1**). In addition, the number of the participants involved in Phase II was determined via the minimum observation-to-variable ratio, 10:1,[22] with 30% added for sample attrition. Potential nurse subjects meeting the selection criteria were contacted by one of 10 research assistants who were trained by the primary investigator regarding the data collection procedure. The recruiting process ended when the number of subjects from each selected hospital met the requirement. Hence, the sampling procedure applied both convenience and quota methods.

Table 1 Number of Professional Nurses in Northern Thailand

Estimated Number	Size	University hospital	Regional hospitals	General hospitals	Community hospitals
Population	15,356	1,303	2,850	4,484	6,719
Sample	810	100	200	300	210

Procedure for Instrument Development, Related Data Analyses and Results:

A two phase instrumentation procedure suggested by Waltz and colleagues,[22] DeVellis,[23] and Burns and Grove [24] was used. Phase I consisted of 6 steps: defining the meaning and dimensions of Thai nurses' caring behaviors; generating an item pool; providing the format for measurement; item review for content validity by experts; testing for internal consistency and stability; and, examining face validity.

During Phase I, analyses involved descriptive statistics of subjects' demographic characteristics, as well as content analysis of significant words/sentences, extracted from focus groups and individual interviews with patients, for the purpose of generating categories to guide construction of the instrument. Cronbach's alpha coefficient was used to analyze the total scale of version I of the TNCBS, while Pearson's product moment correlation was used to assess the instruments test-retest reliability. The level of significance was set at 0.01.

Phase II consisted of assessing psychometric properties of the instrument developed during Phase I. During Phase II, Cronbach's alpha coefficient was used to test the scale's internal consistency. A Cronbach's alpha coefficient of 0.70 or higher is considered adequate for a new scale.[23] Item variance, item means, item to item correlation, and corrected item to total correlation were conducted to examine acceptability of each item and redundancy among the items. Value of reliability of the subscales and the total scale were sought. Construct validity of the scale was calculated using explanatory factor analysis with varimax rotation. Items that had factor loading of 0.3 or more were retained.[23]

***Phase I:* Step 1- Defining the meaning and dimensions of Thai nurses' caring behaviors.** Development of the TNCBS, clarification of the concept (Thai nurses' caring behaviors) and determination of the dimensions of the concept were accomplished through: an integrated review of relevant literature; focus group discussions with 30 patients; and, individual interviews with 7 patients. Female (n = 19; 51.35%) and male (n = 18; 48.65%) subjects, who ranged in age from 18-73 years and predominantly were Buddhist (n = 36; 97.30%) participated.

Integrated review of literature published between 1996 and 2005, involving assessment of studies of nurses' caring behavior, was conducted. Confirmation of cultural congruency of content was obtained from 2 unpublished studies of Thai nurses' caring behavior.[18-19]

The primary researcher then conducted and tape-recorded focus group discussions, for approximately one to one and one-half hours, with thirty patients who were admitted to a regional hospital. Subjects were divided into 5 groups with 6 patients per group. To provide semi-structure to the focus group discussions, six open-ended questions were developed by the primary investigator. They included: 1) "In your opinion, what does caring behavior mean?;" 2) "What are nurse's caring behaviors?;" 3) What behaviors demonstrate caring among nurses?;" 4) "What have you experienced regarding nurses'

caring behaviors?;" 5) "What do you suggest regarding nurses' caring behaviors given your current hospitalization?;" and, (6) "Is there anything else you would like to share about nurses' caring behaviors?" Data from the focus group discussions were analyzed using content analysis.

Analysis revealed inadequate data had been obtained regarding the definition and dimensions of nurses' caring behaviors. Therefore, in-depth individual interviews, with seven patients, were conducted and tape-recorded. Each interview lasted approximately 45 to 60 minutes. The seven patients were from the same regional hospital as subjects in the focus group discussion, but were not the same individuals involved in the focus group discussions.

The guiding questions used for the interview were the same ones used during the focus group discussions. Data from individual interviews were analyzed using content analysis. These findings were used to compliment findings from the focus group discussions.

Results of the integrative literature review, focus group discussions and individual interviews were analyzed. Similar statements obtained were grouped and labeled as dimensions of nurses' caring behaviors. The statements were discussed among the research team to obtain consensus.

The commonality derived from the integrated literature review, focus group discussions and individual interviews suggested the following definition of Thai nurses' caring behaviors: "Facial expression, attitude and deportment of nurses, arising from their awareness, concern and understanding of patients' feelings when practicing nursing, in order to respond to the patients' needs, whether physical, mental or spiritual, so as to help them recover from their symptoms and achieve a healthy condition."

Six dimensions were found to be included in the Thai nurses' caring behaviors. They included: effective communication; respect; support; utilizing professional knowledge and skills; being with; and, doing for. *Effective communication* is when the nurse interacts with a patient and his/her relatives through attentive listening, providing information and explaining medical/nursing care plans, and includes both verbal and non-verbal characteristics. *Respect* occurs when the nurse accepts and acknowledges the patient as an individual. *Support* is the help a patient receives, from the nurse, regarding his/her problems, which have physiological, psychological, social and spiritual dimensions. *Utilizing professional knowledge and skills* is when the nurse provides help to another through use of his/her scientific knowledge and the art of nursing. *Being with* is when the nurse spends time to meet the patient's needs, with the patient not feeling obligated to the nurse. *Doing for* are actions the nurse performs regarding the patient's body and mind. These actions include providing physical and mental care, as well as performing treatments and administering medication.

Step 2: Generating an item pool. From the information obtained in Step 1, 87 items were developed. These items were assessed by three nurse experts who had backgrounds in qualitative research, caring content and instrument development. As a result of the experts' assessments, 30 of the original 87 items, with five items in each of the six domains, were retained for the first version of the Thai Nurses Caring Behavior Scale (TNCBS).

Step 3: Format for measurement. The first version of the TNCBS was designed using a 4-point Likert-like format with: 4 = always practice; 3 = often practice; 2 = seldom practice; and, 1 = hardly or did not practice. This was because the new scale sought to measure the frequency of behaviors, as suggested by DeVellis.[23] Summation of scores, across all six dimensions, indicated the extent of caring behaviors practiced by the nurse within each of the respective dimensions. A total score was obtained by summing all item scores. Higher scores represented a higher

degree of caring behaviors. Possible total scores ranged from 30 to 120, with possible subscale scores ranging from 5 to 20 for each of the six domains.

Step 4: Content validity by experts. The first version of the TNCBS was reviewed for content validity by five experts (one in instrumentation and four in caring content). After the experts, who the primary investigator initially contacted by telephone, verbally consented to participant, they were posted a letter of invitation, guidelines for content validation of the instrument and a copy of the first draft of the instrument (TNCBS). The guidelines contained objectives of the study, instructions for evaluating the instrument and the instrument evaluation form, which consisted of the item rating format (1 = not relevant; 2 = some what relevant; 3 = quite relevant; and 4 = very relevant) recommended by Davis.[25] Additional space was provided, on the evaluation form, for comments, criticisms and suggestions for item revision, if needed. Revisions were made in the instrument based upon the experts' feedback. The experts conducted this process three times, after which an acceptable 63-item second version of the TNCBS was developed. Upon the experts' review, the primary investigator determined the second version of the instrument's item-content validity indexes (I-CVI) to be between 0.80-1.00, with a mean of 0.98, and a scale-content validity index (S-CVI) of 0.98.

Version two of the TNCBS included 63 items, over the six dimensions, including: *effective communication* (9 items); *respect* (14 items); *support* (10 items); *utilizing professional knowledge and skills* (11 items); *being with* (9 items); and, *doing for* (10 items). The same response pattern used in the first version of the instrument was retained for the second version. Total scores could range from 63-252. A higher score indicated a higher frequency of demonstrated caring behaviors.

Steps 5 & 6: Testing for internal consistency and stability, and examining face validity. The instrument was examined for internal consistency, stability and face validity to assess accuracy, clarity, appropriateness in terms of readability and length of time for responding to the scale. Fifty nurses from a regional hospital and 10 nurses from a community hospital were conveniently selected and approached, by the primary investigator, and asked to participate in this portion of the study. These nurses were females, who ranged in age from 24 to 51 years, with a mean age of 38. In addition, they tended to be Buddhist (n = 51;96.22%); hold a bachelor's degree (n = 48; 90.56%); work on a surgical unit (n = 27; 50.94%); have a work experience between 1 to 30 years, with an average of 18 years; and, serve as a staff nurse (n = 44; 84.02%). Upon consent, each of them was given a packet containing a cover page that provided a short explanation of the objectives of the study, a demographic data questionnaire and version two of the TNCBS.

Two weeks later the same 60 nurses were approached, by the primary investigator and asked to again complete version two of the TNCBS. However, only 53 were available to complete the scale a second time. In addition to completing version two, a second time, 10 of the 53 nurses were arbitrarily selected and asked to address the scale's appropriateness, clarity of language, format, ease of understanding, length and required time for completion.

Cronbach's alpha coefficient was used to determine the scale's internal consistency and found to be 0.98 for the overall scale. For the two administrations of the scale, ranges of Cronbach's alpha, for the 6 subscales, were found to be 0.87-0.92 and 0.91-0.95, respectively. The test-retest reliability coefficient of the overall scale was 0.76,

and that of the 6 subscales ranged from 0.61-0.82. The scale required approximately 20 minutes to complete. No further revisions were made, since the scale appeared to be clear and appropriate to use with professional nurses. Thus, examination of version two of the instrument moved into Phase II.

Phase II: Psychometric Properties of the Final Version of the TNCBS:

Psychometric assessment of version two was performed through administration of the scale to 810 profession nurses. A total of 758 (93.58%) returned completed questionnaires. Most were females (98.70%) who ranged in age from 23 to 58 years and had worked as a nurse for 1-36 years. Cronbach's alpha coefficient was used to determine the scale's internal consistency, and Pearson product moment correlation ($p<.01$) was used to determine the item-to-total correlations and subscale to subscale correlations. Analysis revealed each item had a correlation coefficient greater than 0.30 and, thus, as recommended by Waltz and co llegues,[22] should be retained in the scale.

After application of explanatory factor analysis with varimax rotation, six of the 63 items were deleted because of redundancy ($r > 0.70$). Therefore, the final version of the TNCBS was reduced to 57 items, within six dimensions, to produce a possible total score range of 57 to 228. As shown in **Table 2**, the dimensions, in order of Eigen values, were: a) *utilizing professional knowledge and skills* (11 items); b) *effective communication* (12 items); c) *support* (10 items); d) *respect* (11 items); e) *being with* (8 items); and, f) *doing for* (5 items). Correlation coefficients among the subscales ranged from 0.61- 0.80 (see **Table 3**), suggesting homogeneity of the subscales.[22] Cronbach's alpha coefficient of the total scale (57 items) was 0.98, and ranged from 0.86-0.93 for the six subscales (see **Table 4**). The coefficient values revealed the final version of the TNCBS exhibited satisfactory internal consistency and reliability. In addition, the final version of the TNCBS demonstrated satisfactory psychometric properties (see **Table 5**).

Table 2 Eigen Values of Subscales of TNCBS

Subscales	Number of items	Factor loading	Eigen value	% of variance	Cumulative %
1. Utilizing professional knowledge and skills	11	0.425-0.741	25.097	44.030	60.82
2. Effective communication	12	0.383-0.697	2.624	4.603	
3. Support	10	0.413-0.670	2.070	3.632	
4. Respect	11	0.449-0.585	1.529	2.682	
5. Being with	8	0.464-0.773	1.233	2.163	
6. Doing for	5	0.427-0.512	1.086	1.906	

Table 3 Correlations among Subscales of the TNCBS

Subscales	1	2	3	4	5	6
1. Effective communication	1.00					
2. Respect	0.79	1.00				
3. Support	0.75	0.79	1.00			
4. Utilizing professional knowledge & skills.	0.61	0.72	0.68	1.00		
5. Being with	0.69	0.74	0.77	0.71	1.00	
6. Doing for	0.66	0.75	0.76	0.77	0.80	1.00

Table 4 Internal Consistency Reliability of each Subscale and Total Scale of the TNCBS

Total scale and subscales	Cronbach's alpha
Total scale reliability	0.93
Utilizing professional knowledge & skills subscale (11 items)	0.92
Effective communication subscale (12 items)	0.89
Support subscale (10 items)	0.90
Respect subscale (11 items)	0.90
Being with subscale (8 items)	0.86
Doing for subscale (5 items)	0.98

Table 5 Examples of TNCBS Items

Subscales	Items
1. Utilizing knowledge and skills	1. Practices within nursing and midwifery professional laws.
	2. Practices nursing according to nursing standards.
	3. Provides nursing care with confidence.
	4. Provides care correctly and quickly.
	5. Utilizes medical equipment correctly and skillfully.
2. Effective communication	1. Greets patients cheerfully and in a friendly way.
	2. Listens attentively to the patients.
	3. Answers politely all the questions asked by patients and relatives.
	4. Involves relatives according to their rights in providing care on certain occasions.
	5. Apologizes for mistakes and accidents when things go wrong.
3. Support	1. Provides patients with comfort in all aspects.
	2. Praises patients when they complete certain activities on their own or have made progress.
	3. Allows patients to express both positive and negative feelings.
	4. Motivates patients to learn to take care of themselves.
	5. Creates an environment which helps the patients' relatives to take part in caring for patients.

Subscales	Items
4. Respect	1. Avoids unnecessary exposure of patients' bodies.
	2. Maintains confidentiality of the patients' information.
	3. Provides care politely and gently.
	4. Treats patient equally without prejudice.
	5. Allows patients' relatives to provide care on certain occasions, according to their rights.
5. Being with	1. Takes an interest in problems and suffering of both patients and relatives.
	2. Allows time for patients to do activities.
	3. Spends time with the patients when they are afraid, worried, or lack confidence.
	4. Responds quickly to patients' needs.
	5. Visits patients regularly and continuously.
6. Doing for	1. Helps patients in various activities in which they have limitations.
	2. Touches patients gently and appropriately.
	3. Monitors and prevents harm that may occur to the patients.
	4. Uses proper medical technologies in treatments.
	5. Uses technology and traditional wisdom correctly in healing patients.

Discussion

Components of Thai Nurses' Caring Behaviors: Each of the six dimensions of the caring behaviors of Thai nurses identified, as perceived by patients and other professionals in this study, were found in prior literature related to caring behaviors. However, when putting the components together, the overall picture of the Thai nurses' caring behaviors has some unique characteristics. For example, the dimension of *utilizing professional knowledge and skills,* although found in a number of other studies,[6,17,26,27] focused on the use of a nurse's knowledge, judgment, skills, energy, experiences and motivation during his/her caring for patients and their respective relatives. This may be because nursing care has become increasingly focused on the application of advanced technology. The use of knowledge and skills in professional nursing has acquired an increased sense of urgency, which at times deals with life-threatening or life-saving consequences.

Although communication is a domain often presented in other descriptions of caring behaviors,[17,27-29] this study placed emphasis on *effective communication,* using specific attributes of verbal and non-verbal communication among nurses and patients. Therefore communication was viewed as the process of effective and artful giving and receiving of information between nurses and patients. *Support* also often is contained within the description of nurses' caring behaviors.[1, 3,6,30] However, the support focus of this study was on the specific attributes of healing interactions with patients, in order to alleviate their suffering and emotional distress, instead of on the meaning generally placed on support. *Respect* was used in the context of a focus on maintaining the dignity and integrity of patients, according to their rights, while providing them care was similar to the description of respect presented in previous studies.[1, 29, 31] *Being with,* the act of being close to patients when needed, immediately responding to their needs or being nearby when an event occurs, has been described previously as a dimension of nurses' caring behavior.[5,17,32,33] The same holds true regarding *doing for.*[33]

Components of the Thai Nurses' Caring Behavior Scale: The six dimensions of the TNCBS identified, in this study, are similar to other instruments which have been used to examine nurses' caring behaviors.

These include the CARE-Q[11] and the CDI.[12] The CARE-Q contains six subscales, including: accessible (6 items); comforts (9 items); anticipates (5 items); develops a trusting relationship (16 items); monitors and follows through (8 items); and, explains and facilitates (6 items). The CARE-Q dimension of *explains and facilitates* is congruent with the TNCBS dimension, *effective communication.* Comparison of the final TNCBS items, with those of the CARE-Q, reveals that 4 items of the CARE-Q are similar to those of the final TNCBS. They are: 1) tells the patient in understandable language; 2) listens to the patient; 3) talks to the patient; and, 4) involves the patient's family or significant others in the care. The differences are noticeable in that the items in the final TNCBS provide specific Thai cultural manners. For example, they include: using simple language in communication with patients and their relatives; speaking to patients gently; and, using proper Thai pronouns in communication with patients. Although the CARE-Q can be used to assess the caring behaviors of nurses and patients, the caring behaviors of nurses can be examined only in terms of nurses' behaviors that can be observed by patients. Other behaviors, such as *utilizing knowledge and skills,* may be overlooked, since they can be noted only by other health care providers.

The CDI, as was the TNCBS, was developed for nurses to use as a self-report measure of their caring behaviors. The four dimensions of nurses' caring behaviors measured by the CDI include: nurse-patient relationship; nursing intervention; nursing skills; and, communication.[12] Similarly, the final TNCBS dimensions, "effective communication" and "professional knowledge and skills," are a combination of the respective CDI dimensions, "nursing intervention" and "nursing skills." In addition, seven of the CDI items are similar, to some extent, with items in the final TNCBS. They include: 1) assisting the patient with daily living activities (washing, dressing, etc.; 2) explaining clinical procedures to the patient; 3) being with the patient during a clinical procedure; 4) listening to the patient; 5) keeping relatives informed about the patient; 6) being technically competent with a clinical procedure; and, 7) providing privacy for the patient.

However, some of the CDI items frequently do not appear in the daily practice of nursing in Thailand. For example, "feeling sorry for the patient" and "sharing your personal problems with the patient" are not practiced by Thai nurses, as they are emotional demonstrations and not valued among the Thai population. On the other hand, the TNCBS item, "treats patients like relatives," which reflects love, care and trust among extended family members, is valued and commonly used in Thai society, and is more culturally congruent. Also, the CDI item, "being neatly dressed when working with a patient," is not practiced within a closed unit or during times when the Thai government conducts a national campaign ("Yellow Shirt Wearing" in celebration of the King's 60th year of accession to the throne or wearing sports clothing on "Exercise Day"). "Sitting with a patient" is another CDI item rarely practiced in Thai public hospitals, where all available spaces often are occupied by "the whole family/village visitors." Thus, the nurse often is required to "stand by his/her patient."

In comparison to the TNCBS, the CDP scale, developed by Daodee and Crabtree[13] and based on Watson' caring theory[15] and Kubler-Ross's theory,[16] consists of 12 factors and 50 items. Although the dimensions, "respect" and "effective communication," of the final TNCBS are congruent with dimensions in the CDP Scale, the TNCBS items illustrate more delicate behaviors than do dimensions of the CDP Scale. In addition, 10 of the CDP scale items are similar to items in the final TNCBS, including: 1) advises the patient of care activities before giving

care; 2) listens attentively to the patient; 3) allows the patient to express positive and negative feelings; and, 4) performs nursing duties with confidence. The similarities suggest existence and acceptability of nurses' caring behaviors included in the final TNCBS.

In conclusion, the existing caring behavior scales, used in Thailand and other countries, have different dimensions and items. They vary depending on the: objectives of the scale used; researcher's belief and philosophy; specific group of nurses and patients; and, culture. The final TNCBS has unique characteristics that include universal behaviors, judged to be caring behaviors of nurses, as well as behaviors of nurses and patients in the Thai culture.

Psychometric Properties of the final TNCBS and Limitations: Content validity (CVI) of the TNCBS was determined by five Thai nursing experts in "caring" through three rounds of review. The item-content validity index (I-CVI) ranged from 0.80-1.00, with a mean of 0.98. The scale-content validity index/average (S-CVI/Ave) was determined to be 0.98, indicating acceptable content validity in light of the fact that a new scale should have an I-CVI and S-CVI of 0.90 or 1.00[34] Thus, the final TNCBS was deemed acceptable in terms of representation of the concept, nurses' caring behaviors, based on its definition, dimensions, items derived from the literature and information provided by Thai nurses. The TNCBS also proved to be appropriate to the Thai culture. In other words, the content represented in the TNCBS measured what the researcher intended.

The process of testing the psychometric properties of the final TNCBS included field testing, with the use of item analyses, principal component analysis, with varimax rotation, and Cronbach's alpha coefficients. These analyses provided creditability for the developed scale in terms of construct validity and internal consistency. The number of participants engaged in the preliminary and field tests was sufficient to provide adequate data for testing the instrument. However, one must recognize the findings only can be generalized to Thai nurses working in hospitals in the northern region of Thailand.

The testing process did not include a concurrent or predictive, criterion-related validity test due to lack of an acceptable instrument to measure nurses' caring behaviors for concurrent validity testing or outcomes of their caring behaviors. Since the TNCBS is a self-report evaluation, one needs to be sensitive that social desirability may affect its reliability, if not properly used.

Conclusion and Suggestions

Caring behaviors among nurses must be addressed if nurses are to provide quality care. The TNCBS was shown to be a valid and reliable measure of Thai nurses' caring behaviors. However, further testing for construct validity is needed to provide stronger support for the scale's psychometric properties. Use of the TNCBS could aid in identification of nurses' caring behaviors and assessment of quality nursing care.

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การพัฒนาแบบวัดพฤติกรรมการดูแลเอื้ออาทรของพยาบาลไทย

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บทคัดย่อ: การศึกษาครั้งนี้มีวัตถุประสงค์เพื่อพัฒนาและทดสอบคุณภาพของแบบวัดพฤติกรรมการดูแลเอื้ออาทรของพยาบาลไทย การสร้างเครื่องมือนี้แบ่งออกเป็น 2 ระยะ ระยะที่ 1 เป็นการให้ความหมายและกำหนดองค์ประกอบของพฤติกรรมการดูแลเอื้ออาทรของพยาบาลไทย การสร้างข้อคำถาม การออกแบบเครื่องมือ การตรวจสอบความถูกต้องตามเนื้อหาโดยผู้ทรงคุณวุฒิ การทดสอบความสอดคล้องภายในและความคงที่ และทดสอบความชัดเจนของข้อคำถาม พบว่าพฤติกรรมการดูแลเอื้ออาทรของพยาบาลไทย ประกอบด้วย 6 องค์ประกอบ (การสื่อสารอย่างมีประสิทธิภาพ การให้ความนับถือ การสนับสนุนประคับประคอง การอยู่เป็นเพื่อน การกระทำให้ผู้ป่วย และการใช้ความรู้และทักษะเชิงวิชาชีพ) โดยมีข้อคำถาม 63 ข้อ และออกแบบวัดเป็นแบบมาตรวัดประมาณค่าชนิดลิเกิร์ต 4 ระดับ

ระยะที่ 2 เป็นการทดสอบคุณภาพของแบบวัดพฤติกรรมการดูแลเอื้ออาทรของพยาบาลไทย พยาบาลวิชาชีพจำนวน 758 คน จากโรงพยาบาล 10 แห่ง ประกอบด้วย โรงพยาบาลมหาวิทยาลัย 1 แห่ง โรงพยาบาลศูนย์ 2 แห่ง โรงพยาบาลทั่วไป 3 แห่ง และโรงพยาบาลชุมชน 4 แห่ง เข้าร่วมตอบแบบวัด 63 ข้อ วิเคราะห์ข้อมูลที่ได้โดยการวิเคราะห์องค์ประกอบเชิงสำรวจร่วมกับการหมุนแกนวาริแมกส์ เพื่อตรวจสอบความตรงเชิงโครงสร้าง และพบว่าได้ผลที่เชื่อถือได้ เนื่องจากมีความซ้ำซ้อนของข้อคำถามบางข้อ แบบวัดฉบับสุดท้ายจึงมีข้อคำถามลดลงเหลือ 57 ข้อ ค่าสัมประสิทธิ์แอลฟาของครอนบาคของแบบวัดทั้งฉบับเท่ากับ 0.98 และของ 6 องค์ประกอบเท่ากับ 0.86- 0.93 ผลการทดสอบแสดงถึงค่าความตรงและความเที่ยงในระดับที่ยอมรับได้ของแบบวัดฉบับสุดท้าย

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คำสำคัญ: การพัฒนาเครื่องมือ พฤติกรรมการดูแลเอื้ออาทรของพยาบาล พยาบาลวิชาชีพไทย

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