



## Measurement of Caring: An ICE Berg Phenomenon

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### ABSTRACT

*The focus of nursing is caring and caring is an elusive concept. Caring is visible however it is difficult to capture the real caring in quantitative terms. Nursing is synonymous with caring and hence entrants to nursing programmes should possess a pre-requisite ability for caring. Physical fitness and 50% of marks in 12th grade scores (in science stream) has been the eligibility criteria for nursing however, the growing quality oriented health care market seeks competent nurses in caring. Thus there is a need to assess the aptitude towards nursing and caring, an attempt in this direction is briefed here.*

**Keywords :** Tool development, Caring, Swanson's theory

### Introduction:

Nursing is synonymous with nurturing, caring, helping and growth. Personal concern is an inherent feature of nursing. Nursing as a vocation when evolved in India, attracted service minded young women and was featured as a motherly function. Over the years, the female dominated career welcomed men. Currently a good number of Indian men and women seek admission to nursing courses for varied reasons. The major attraction has been the global market for nurses and India has been one of the major suppliers of manpower to middle-east and developed countries in the recent past.

Government of India values nurses as important grass-root level health care providers. The trends in nursing education, health care, human resource and economics in the last decade, provided opportunity to almost every eligible applicant of nursing to undergo nursing programme without ascertaining their ability to care at entry point. However technology and quality oriented health care practice of today demands competent nurses. Hence it is advisable to admit students who possess pre-requisite abilities for nursing and help develop these abilities during the training which would aid better adjustment to the job.

High power committee in India reported the need for testing aptitude of nursing students at entry level.<sup>1</sup> A few studies and reports from India and abroad too recommend testing of nursing, math, verbal and science aptitudes of nursing students at entry point.<sup>2-6</sup> A Nursing Aptitude test tool designed by an Indian nurse for selection of able candidates for nursing programmes, included conative, cognitive and psychomotor abilities. The tool used verbal ability, reading comprehension, judgment, knowledge of applied sciences in the cognitive domain and empathy, social skills, self-awareness, self-motivation and self-regulation as conative aptitude. The tool was tested in Ludhiana among diploma and graduate nursing students and found to have a reliability of 0.8 except in conative ability (0.7).<sup>7</sup> Nursing literature discusses that caring is central to nursing.<sup>8</sup> However the above study lacked focus on the construct of caring in particular.

Philosophy of caring and theories of caring have been structured by nurses in the west however most of the nursing theo-

rists found caring as an elusive concept not only to define but also to measure.<sup>9</sup> Several attempts had been made to measure caring in terms of caring behaviors, satisfaction with caring behaviors, ability to care, response to caring behavior, etc and are measured in both patient care and non-patient care settings.

The researchers believe that caring is an inbuilt culture in Indian setting and desired to capture caring ability. This article describes the process, validity and reliability of the tool on caring.

### Materials and methods:

To identify the essential abilities expected of nurses at entry point, a focus group discussion was held among the clinical nurses in a selected corporate hospital, however these young nurses with 2-4 years of clinical experience were unable to delineate the essential abilities and weigh them in terms of importance at the entry point. The young nurses rather expressed the essential qualities expected of nurses such as caring, compassion, commitment and adjustment upon which a tool was designed and tested among nursing students at entry level for its reliability and validity. Though the rating scale developed had a overall reliability of 0.7 (alpha and test retest methods) the validity of the items in the tool were questioned in terms of a solid theoretical basis for item development. Another scale developed on the basis of reviewed literature on essential qualities expected of a nurse as a guttmann scale had a reliability of 0.52 (lamda) Hence it was decided to re-attempt the development by basing the items on a existing middle range theory.

In this study nursing aptitude was referred to the ability to care and caring was defined as a process of nourishing or being responsive to others needs and problems, which would establish positive and supportive relationships. Swanson's empirically developed middle range theory of caring was chosen as a theoretical basis for tool development, as the definition of caring was in near match to the study's operational definition. She defined caring as a nurturing way of relating to a valued other towards whom one feels a personal sense of commitment and responsibility. She addressed five mutually in-exclusive processes in caring namely knowing, being with,

doing, enabling and maintaining belief and the items were developed taking into consideration the sub-dimensions specified for each process.<sup>10</sup>

A caring tool was developed with a total of seventy eight situation based items. Six Negative statements (were reverse scored) were included and were placed randomly in the tool. Cognitive interviewing helped to refine the items into simple, meaningful, comprehensible language (English) by deleting unessential verbatim. The tools were validated by eleven experts: Two psychologists, two Nurse Research Fellows, three nurse doctorates, two psychiatric social workers, two psychiatrists. The suggestions from the validators were incorporated and the final tool had 69 items. The response options were retained as: always, most of the times, sometimes, rarely and never for all processes except for maintaining belief, which was to be rated in terms of strongly agree, agree, uncertain, disagree and strongly disagree (scored as 5-1 respectively). Negative items were reverse scored.

The tools were translated to Kannada and Malayalam, printed and edited by language experts. The translated tools

were pretested. Pilot test of the caring tool was conducted in four of the randomly selected nursing colleges of South Canara. The proposed sample size for the study was 1:10 (Item to sample ratio) however pilot study was held with estimated sample of 1:4 (n= 286) after obtaining the official permission from college administrator and informed consent from participants. The tool was administered in group and directions for filling were given after obtaining the consent. The students were placed distant (three feet) to discourage copying. The students filled the questionnaires individually under the supervision of the researcher. The average time taken to fill was 20 min.

The data was collected in the month of September – October 2012. Majority 61.2% (175) of the sample were from Kerala state, 14 (4.9%) were from Karnataka and 1.7% (5) were from north India. About 79.1% (228) were from rural areas and 99.7% (285) were females. The students were of the age 17 yrs. (27.3%), 18 years (59.1%) and 19 years (9.1%). Christians were 85.7% (245), Hindus were 11.9%, others were 1.4% and three were Muslims.

**Table 1: Mean, standard deviation of scores and reliability of the caring tool**

Process	No. of items	Min. Max scores	Sample	Mean (SD)	Cronbach Alpha(95% CI)	If item scale correlation <0.2 is deleted	
						No. of items	Alpha (95% CI)
Doing	15	15-75	172	64.01 (5.769)	0.72 (0.656-0.779)	15	0.72 (0.656-0.779)
Being with	13	13-65	256	51.72 (5.358)	0.614 (0.540-0.680)	8	0.7 (0.642-0.752)
Enabling	13	13-65	264	51.83 (6.757)	0.776 (0.734-0.814)	12	0.789 (0.756-0.825)
Maintaining belief	12	12-60	254	52.26 (4.299)	0.629 (0.558-0.693)	11	0.624 (0.551-0.689)
Knowing	16	16-80	194	69.59 (5.369)	0.638 (0.569-0.701)	14	0.697 (0.660-0.750)
Total	69	69-345	126	293.1 (21.74)	0.904 (0.879-0.927)	60	0.905 (0.897-0.927)

The reliability of the scale and subscales is presented in table 1. Missing values were excluded for analysis. From table 1, it is clear

that, even after deleting nine items, the reliability of the overall scale was 0.9. The subscales had the acceptable range of reliability ( $\alpha = 0.6$ ). The maximum score obtained in the 60 item tool (n=126) was 298 and the minimum was 205. Mean (SD) score of caring ability was 256 ( $\pm 19.56$ )

The mean and standard deviation of caring ability scores of those who wanted to be a nurse (n=112) was 256  $\pm$  18.92 and those who did not (n=14) was 253  $\pm$  24.72. Independent sample test indicated that the difference in mean was statistically not significant ( $t_{(124)} = 0.612, P = 0.542, CI = -7.604-14.4$ ). The mean and standard deviation of caring ability of those who wanted to be in medical field (n=64) was 261  $\pm$  16.01 and who did not (n=62) was 251  $\pm$  21.789. Independent sample test indicated that the difference in mean was statistically significant ( $t_{(124)} = 2.747, P = 0.007, CI = 2..6096-16.064$ ).

**Discussion:**

In this study (n=286), nursing was the first choice of 70.6% (202) and 83.9% (240) wanted to become a nurse. The factors which influenced the carer choice by the sample were: Interest to help others (70.3%); Job opportunity abroad (67.8%); Interest to be in the medical field (48.3%); Job opportunity in India ( 17.8%); Financial problems (17.1%); Influence from nurses in the family (15.7%); As a career to actualize self (15.7%); Better marriage proposals (11.2%); Career guidance programmes (13.3%); Parents influence (10.8%); Availability of medicines (4.2%); Influence of friends (2.1%); Own health problems (2.1%); Influence of agents (0.7%); Parents pressure (0.3%); and other factors (7%). The factors which influenced the career choice were similar to an earlier study by the researcher and in fact the tool on factors influencing the career choice was designed based on that study.<sup>11</sup>

The item scale correlations were found within a range of 0.2-0.5 within the processes. Majority of the sample were interested in nursing and possibly could be why good spread of item scores was not found. Moreover, caring is a universal characteristic and every individual to some extent possesses it. Caring culture is inbuilt in Indian families and persons, events, projects and things matter to Indian people. Caring atmosphere within families create possibilities for coping, enables

possibilities for connecting with and concern for others.

Swanson too expresses that the five processes in her theory are not mutually exclusive. Thus it is imperative that the whole scale’s reliability is much valid than of the subscales. Possibly this is also a reason why the spread of scores of items within scale were less. However, no significant difference in caring ability scores and the desire to become a nurse, suggest that the tool interest and aptitude are different constructs. Chi square test revealed association between caring ability scores and interest to be in medical field, which calls for a discriminant construct validity of the tool.

The researchers feel that the scale can be condensed further with careful attention to clubbing of few items. However this can be assessed after administering the scale to additional samples as the current reliability was established with 126 samples (missing data was excluded for analysis).

India has only 8 nurses per 10,000 populations, however India is currently resurveying its licensed and on the job nurses strength. To render effective health care services and bring a paradigm shift in health care delivery, India needs competent and committed nurses. Aptitude test at entry level does not ensure commitment however can predict competency. To increase the manpower requirement Indian Nursing Council took actions to increase nursing institutions. As of 13 December 2012, India has 2674 nursing schools (of this 546 in Karnataka state) offering diploma nursing and 1586 nursing colleges (of this 340 in Karnataka state) offering graduate nursing programmes. The nursing council is now concentrating on strengthening nursing education and practice. Introducing aptitude test to screen entrants to nursing programmes may be a novel venture however is much a need of the hour. India needs to think of strengthening nursing manpower with competency apart from building attitude and knowledge.<sup>12</sup>

Studies on assessment of aptitude test verbal, numerical and reading comprehension abilities. However, the availability of standardized tests for these abilities with Indian adaptation made the researchers not to develop an equivalent tool to test these abilities. The standardized tool is recommendable

for Indian population even at this point of time as the items are in simple language and are of moderate level of difficulty.<sup>7, 13</sup>

The nursing aptitude tool developed in Karnataka was tested for nursing situations among nurses, with elements of memory, knowledge, judgement and verbal ability. The study found that performance of the nurses was satisfactory (69% of sample) which is imperative that we need to enhance nursing competencies. The study found significant difference between diploma and graduate nurses and it was proposed to employ graduate nurses. However as nursing functions with respect to direct care provider role are same irrespective of qualification, moreover cost involved in education towards graduate nursing programmes is higher comparatively. Indian government needs to think of capacitating both diploma and graduate nurses in the context of its health problems and goals. Thus the developed aptitude test tool, needs to be applicable for both diploma and graduate nursing programmes.<sup>3</sup>

A pilot study held in one of randomly selected nursing col-

leges using the standardized (indina adaptation) verbal and numerical ability tools found that there was no significant relationship (n=92) between verbal, numerical and caring abilities (verbal ability and caring:  $r = - 0.193$ ,  $p = 0.134$ ; numerical ability and caring:  $r = 0.019$ ,  $p = 0.891$ ; verbal and numerical ability:  $r = 0.170$ ,  $p = 0.142$ ). However this can be retested using the refined tool once again in the Indian setting as there is a paucity of research in this area.

#### Conclusion:

Caring is though an elusive concept, care is the focus of nursing. Caring evolves consideration of multiple factors and thus nurses need to be competent in coordinating the care. Though the depth of caring is not measureable in quantitative terms, caring can be visualized and experienced to some extent. Thus assessment of caring ability of nursing students at entry point is essential and may help to identify suitable candidates for caing professions especially nursing. This preliminary study motivates the researchers to relook at the items, reframe and conduct further tests to develop a valid caring assessment tool suitable for Indian setting.

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