

Development of an Effective Scale for Measuring Empathy of Indian Nurses



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Abstract Empathy is an emotion that allows a person to enter another's shoes and understand where they come from. It is also an important emotion that empowers healthcare providers to care for patients and each other and is essential to engage patients as partners in care. It is an emotion much needed in nurses as they are in regular touch with patients and their families. However not much study has been done on the empathetic behavior of Indian Nurses. The Jefferson Scale of Empathy (JSE) is the best-known tool globally for measuring empathy in of healthcare professionals. However, there are no existing tools that capture the Indian context for empathy— these factors include the bearing that the socio-economic strata, family and educational background and shortage of resources in the Indian Nursing scenario and their influence on the motivation and empathetic behavior of nurses. This paper addresses a pilot study that was conducted on 18 Indian nurses to arrive at a scale to measure empathy in the Indian Nursing scenario. Various keywords related to empathy were identified from interviews with experts (Human Factors, Healthcare and Behavioral Design). The new empathy scale covers cognitive, affective, and motivational aspects of empathy, and the responses for each item was consistently rated by Indian nurses (Cronbach's alpha > 0.70). Therefore, the new empathy scale is reliable.

Keywords Affective · Behavioral · Cognitive · Communication skills · Empathy · Indian Nurses

1 Introduction and Background References

The word “empathy” is derived from Greek word “empathia” meaning “affection or passion with a quality of suffering” [1]. Empathy is a critical ingredient for patient satisfaction and improved patient wellbeing therefore must be a part of the entire

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hospital experience for patients [2–4]. It is an emotion much needed in nurses as they are in regular touch with patients and their families [3, 5–7].

Empathy is distinct from Sympathy which refers to the ability to take part in someone else's [4], feelings, mostly by feeling sorrowful about their misfortune, which is not desirable in a healthcare context. Empathy is a powerful ability for healthcare-professionals because patients feel heard, supported, cared for, and validated when they feel someone is taking steps to understand their pain [3, 6].

Hojat concluded that empathy is primarily a cognitive attribute especially in the healthcare context. It involves the process of understanding of a patient's condition and communication of this understanding with the intention to help reduce suffering [4]. Apart from cognitive, there are also affective, and behavioral expressions of empathy [4]. These are measured using self-reported and behavioral tools to understand the internal mechanisms that lead to empathy. The tools for empathy such as the Jefferson Scale of Empathy (JSE) [7] are also based on self-reporting and do not cover behavioral aspects. A comprehensive scale is needed to evaluate all aspects of empathy and its improvement over time. Measuring and consequently enhancing empathy among nurses through training would result in improvement of patient satisfaction and outcomes [8, 9].

Despite the importance of empathy in patient treatment and well being, there is limited published research and data related to empathy of nurses in India. However a study was conducted on empathy levels of Indian medical students using JSE scale and empathy levels were found to be lower in comparison with medical students globally [1].

India has 3.07 million nurses overall including midwives, nurses, women health visitors and auxiliary nurse midwives. 1.7 nurses per 1000 people, which is 43% less than WHO norms (Rajya Sabha, March 2020). Nurses in India face several challenges in terms of lack of time and resources due to this fact. The current tools for measuring empathy in the healthcare context do not take into account the Indian context and Indian challenges in the components considered. Many researchers have modified the JSE as per the context of the study and to get better results for empathy measurement [1, 10–12].

2 Review of Literature

2.1 Tools to Measure Empathy

Cognitive, affective and behavioral facets of empathy co-exist [4, 13]. Empathy is measured by using both self-reporting and observational measures to understand the internal neurological and physiological processes that drive it [13, 14].

The Jefferson Scale of Empathy (JSE) is a globally used tool developed to measure empathy in healthcare professionals in the context of patient care [10, 11, 15]. The

Questionnaire of Cognitive and Affective Empathy (QCAE) [14] addresses inconsistencies in other measurement tools such as the Interpersonal Reactivity Index (IRI). It is a reliable tool to measure the different aspects of empathy (cognitive and affective and their respective parts) based on the social cognitive neuroscience approach with respect to empathy and its related neural processes [10, 16, 17].

2.2 Factors Affecting Empathy Scores in Healthcare Professionals

Studies have found that nurses who are women tend to score higher than men on empathy scores [1]. Nurses working in different wards in a hospital in Iran underwent a cross-sectional research using the JSE measurement scale. This proved that while there is similarity in results of nurses from different wards, empathy scores increase with experience. Three factors of “Perspective Taking, Compassionate Care, and Walking in Patient’s Shoes” were found to be key factors that drive empathy [17].

Research also proves that there is a reduction in empathy scores in medical students as they progress from first year to final year. The maximum decrease in scores is observed between medical students as they progress from second to their third year as they start with clinical training, this being a time when empathic communication is really needed. However, this decline reflects that changes in empathy are found on some parameters that were important and not in others. In fact, some facets of empathy which are thought to be more critical to good physician–patient communication actually improved during this phase [8, 11].

2.3 Empathy in the Indian Context

William Chopik of Michigan State University had conducted a study on the country by country ranking on empathy based on data gathered from 104,365 adults spread across 63 countries. The highest scoring countries are Ecuador and Saudi Arabia, and nations such as the US also score very high compared to east Asian countries [18]. The African continent mostly scores low and India is comparatively quite average on the empathy score. However, Chopik pointed out that it was only a snapshot and he noted that cultures are constantly evolving therefore there were possibilities for changes in empathy scores (see Fig. 1).

Upbringing, economic strata, culture, age and gender influence the level of empathy of individuals [19]. Indian parenting styles and the education system have a strong influence on the population. Empathy is a much talked about but ignored characteristic in India.

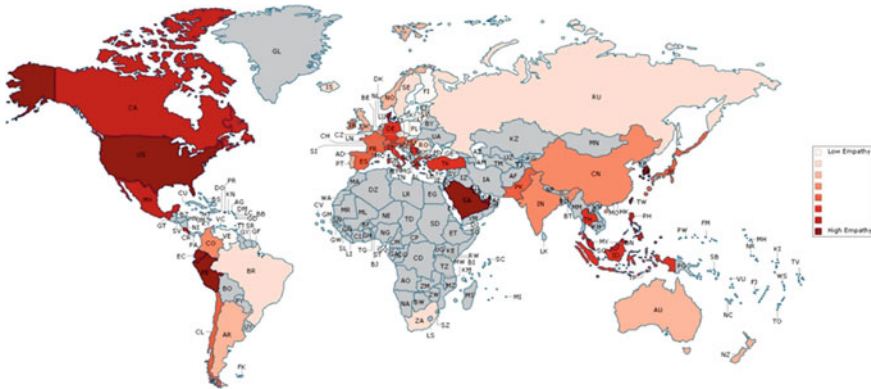


Fig. 1 The world map evolved from William Chopik's study on country ranking on empathy

249 undergraduate medical students of a medical college of Kolkata underwent a cross-sectional study through interviews. The study looked into the sociodemographic profile of the students, their career satisfaction and future career aspirations. The JSE (medical students' version) was adapted for this study. It was concluded that empathy levels of medical students of this study was quite low compared to other studies conducted outside India. Empathy reduced among the students with each semester, which is in line with other research in this regard [1, 20].

2.4 The Indian Nursing Scenario

The nurse-to-patient ratio in India is 3:1777, and as per WHO recommendations, nurses to current population ratio should have been 3:1000, implying a shortfall of 18,09,757 nurses approximately in the country. The attrition rate of nurses in India is 28 to 35% which is much higher than the average in the healthcare sector, which is around 10.1%. A lack of adequate number of institutions providing training in nursing, and migration of nurses to other countries from India are the two most prominent reasons for the shortage of trained nurses in India [21, 22, 25]. Shortage of staff is a strong contributor towards workplace stress for nurses in India which in turn impacts patient care [23, 24, 25].

3 Aim

To conduct a pilot study and design and develop a reliable tool or scale which assesses the cognitive, affective, and motivational aspects of empathy in nurses in India.

4 Methods

Interviews were conducted with five behavioral design experts, healthcare professionals and human factors specialists (having minimum 10 years of experience, Average Age: 37 years) to understand the requirements for empathy scale and to identify a set of keywords related to cognitive, affective, and motivational aspects of empathy. A set of keywords also picked from the existing JSE scale. Then, both sets of keywords have been considered for ratings (on a seven-point Likert scale).

18 Indian nurses from diverse backgrounds in terms of age, gender, marital status, state and type of hospital were administered the questionnaire. (Mage \pm SD = 28.50 \pm 7.84; male = 56%, female = 44%). The nurses were from 19 to 46 years old, belonged to Karnataka, Kerala, Andhra Pradesh, Rajasthan, Tamil Nadu, and Haryana and were associated with Private, Govt, Autonomous hospitals and Universities. Their qualifications included B.Sc, M. Sc and Ph.D.

The scale captured sociodemographic data and included 30 items that captured family support, educational support, and emotional factors for empathy. It measured factors such as individual motivation on the job, understanding of the importance of empathetic behavior in patient treatment. It also evaluated detrimental factors such as stress, lack of training, lack of time and resources, which lead to non-empathetic behavior and conflicts with patients. The items in the pilot empathy scale are listed below in the Table 1. A few questions were adapted from the JSE which have been highlighted in Table 1 as “Existing”, whereas new questions have been listed as “New”.

Factor analysis (principal component analysis, using 50 iterations and Varimax Rotation Matrix, minimum coefficient value = 0.50) was performed to come up with the new sets of items and the modified empathy scale which was then standardized after reliability check (by calculating Cronbach’s alpha).

Table 1 New empathy tool for Indian nurses

S No.	Item	Construct	Type
1	My family gives importance to my feelings in the various contexts of my life	IEENV	New
2	My family has been empathetic towards me since my childhood	IEENV	New
3	My teachers in school understood my feelings	IEENV	New
4	I believe in listening to another person and give importance to their words	COGP	New
5	I believe that entering another person’s shoes is an important part of communication during treatment	EMPMO	New
6	My nursing education taught me how to be empathetic with patients	INSRES	New

(continued)

Table 1 (continued)

S No.	Item	Construct	Type
7	I feel motivated to come to my job as a nurse each day	EMPMO	Existing
8	Conflicts at home, work and lack of time stresses me	EMO	New
9	When I am stressed, I may lose my patience with a patient and may not listen completely	NA	New
10	I am stressed because of lack of resources at my work place	INSRES	New
11	I extend immediate help to a patient during therapy without any hesitation	COGP	New
12	I often have conflicts with patients	COGN	New
13	Empathy is a therapeutic skill without which patient care cannot happen	COGP	New
14	I believe in making strong bonds with patients and their family members	NA	New
15	I believe being sympathetic with patients is exhausting for me	COGN	New
16	Patients' body language helps me understand what is going on in their minds	COGP	New
17	I try not to focus on the patient's mood while taking history of a patient	COGN	New
18	I feel I should ask patients about their personal lives to understand them better	COGP	Newly added
19	If a patient is disturbed, I immediately try to understand what is bothering them verbally and through body language	COGP	New
20	I believe practicing empathy can help my patients feel better	COGP	New
21	I find it easy to give bad news to a patient or their family	COGP	
22	I believe I am more empathetic than I was 5 years ago	EMO	New
23	I feel satisfied when I am empathetic with the patient during therapy	EMO	New
24	A nurse's understanding of the emotional status of his/her patients, as well as that of their families is one of the important aspects of the nurse – patient relationship	EMO	Existing
25	I believe that patients feel better when nurses understand their feelings	NA	Existing
26	Attention to patients' emotions is not important in-patient interview	COGN	Existing
27	Nurse's emotional connect with their patients do not have a significant influence in treatment outcomes	EMO	Existing

(continued)

Table 1 (continued)

S No.	Item	Construct	Type
28	Attentiveness of patients’ personal experiences does not influence treatment outcomes	COGN	Existing
29	A nurse’s sense of humor contributes to a better clinical outcome	NA	Existing
30	Because people are different, it is important to see things from patients’ perspective	IEENV	Existing

IEENV: Individual Empathetic Environment, **INSRES:** Individual Stress Related to Resources; **EMPMO:** Empathy related to motivation; **COGN:** Cognitive Negative; **COGP:** Cognitive Positive; **EMO:** Emotional Factors **NA:** Factors not found reliable/relevant

5 Results and Discussions

The nurses responded to the questions on a 7 points Likert Scale. The results were analyzed with 50 iterations and a rating and correlations came out across 8 components.

Item numbers 1 to 3 in Table 2 represent the level of empathy in the individual environment in which the nurse was brought up and currently exists. These came out to be 0.879, 0.573 and 0.843 under factor 1, thus proving that there is a strong correlation between the empathetic environment (upbringing, family, teachers) with the nurses’ display of empathetic behavior towards patients. Item 4, 11, 13, 16, 19, 20 are at 0.890, 0.925, 0.733, 0.873, 0.730, 0.923) under Factor 1 represent the cognitive construct and positive mindset of the nurses towards practicing empathy with patients including the importance of listening, observation of patient body language and the understanding of the positive impact of empathy caring for patients. In the Indian context as seen through Item 18, which is at 0.662 under Factor 1 it appears there is a stronger need to understand the family background of patients, which may not be considered important internationally. Nurses are valuing the importance of empathy and many are motivated towards patient care; however, there are several stress factors due to lack of resources and time that have a detrimental effect on the nurse patient interaction in India which comes through in Item 8 at 0.855 under Factor 2. Certain factors such as Item 29, sense of humor during patient treatment which are there in JSR, may not considered a critical factor in the Indian context as it comes under Factor 3 at 0.683 (Table 2).

Table 2 Rotated component matrix

Item	F 1	F 2	F 3	F 4	F 5	F 6	F 7	F 8
1	0.879							
2	0.573			0.745				

(continued)

Table 2 (continued)

Item	F 1	F 2	F 3	F 4	F 5	F 6	F 7	F 8
3	0.843							
4	0.890							
5				0.872				
6							0.875	
7				0.855				
8		0.855						
9						0.520		
10							.642	
11	0.925							
12			0.664					
13	0.733							
14					0.913			
15			0.787					
16	0.873							
17		0.660	0.705					
18	0.662							
19	0.730							
20	0.923							
21								
22		0.559			0.557			
23		0.852						
24		0.935						
25		0.871						
26			0.866					
27						0.925		
28			0.874					
29			0.683					
30								0.920

Table 3 Total variance explained

Component	Rotation sums of squared loadings		
	Total	% of Variance	Cumulative (%)
1	7.441	24.804	24.804
2	4.608	15.361	40.165
3	4.192	13.973	54.138
4	2.607	8.689	62.827

(continued)

Table 3 (continued)

Component	Rotation sums of squared loadings		
	Total	% of Variance	Cumulative (%)
5	2.150	7.167	69.994
6	1.986	6.618	76.612
7	1.949	6.496	83.108
8	1.883	6.278	89.385

6 Reliability

The new empathy scale covers cognitive, affective, and motivational aspects of empathy, and the responses for each item was consistently rated by Indian nurses (Cronbach’s alpha > 0.70), which is considered reliable overall. The constructs listed in Table 1, related to the empathy in the individual’s environment including family and education (IEENV) were found to be at 0.78; Positive cognitive constructs such as the nurse’s understanding of the importance of listening, observing body language and the overall importance of empathetic behavior (COGP) came out to be at 0.94, The importance of the emotional aspects of empathetic behavior (EMO) came out to be at 0.72. The negative cognitive aspects such as shortage of resources, stress factors due to stress and home and work (COGN) came out to be 0.88. Pearson Correlation was carried out on the motivation for empathetic behavior (EMPMO) which came out to be > 50 which is considered reliable.

7 Conclusion

Factors such as upbringing, family support and educational background have a strong correlation with empathy displayed in the nurse-patient relationship in the Indian context. Stresses such as shortage of resources and time have a negative effect on nurse empathy. This new empathy scale is effective to measure the empathy of Indian nurses and might further be used by researchers to measure the impact of training on the empathetic responses of Indian nurses towards patients.

Some of the limitations of the tool is that the scale is a self-reported measure, as it is directly reported by the nurses on a Likert scale. Further development of this tool will need include a scale for observers such as doctors and patients to record affective and behavioral traits of nurses.

The next steps for this research will be to test this scale on a larger population, since it has been tested only on a population of 18 nurses. Additionally, the scale would need to be tested further with an Indian and International population of nurses to determine whether the Indian factors identified are accurate and relevant.

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