

Fatma Eti Aslan (ed.)

Scientific Researches in Health Sciences



PETER LANG

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Foreword

The increased knowledge in health care and the development of health-care technologies is a great contribution to scientific studies in this field. In this context, this book will contribute to the development of health sciences and the quality of patient care, with a total of 14 scientific original research articles of which eight are on physiotherapy and rehabilitation, five on nursing, and one on health management

A total of 29 researchers/writers who contributed to these scientific research articles prepared meticulously with great labor, and also contributed in the selection of articles and the preparation of the book for publication. I would like to thank Hayat Yalın, Hasan Kerem Alptekin, İshak Aydemir for their contributions to the health sciences and Fadime Çınar for editorial support.

Editor Prof. Dr. Fatma Eti Aslan

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Fadime Çınar and Fatma Eti Aslan

The Measurement of the Operating Room Nurses' Compassion Level: Turkish Validity and Reliability Study

Abstract: Objective: In this study, it was aimed to examine whether the Compassion Scale, which can measure the compassion for others with six dimensions, is a valid and reliable tool for the operating room nurses.

Material and Method: This methodological study was carried out with 236 nurses working in public and private hospitals between April and May 2017 in the European Side of Istanbul. In collecting the data, "Introductory Information Form" and "Compassion Scale", consisting of 6 dimensions of 24 items, were used to measure the compassion for others. For the scale, the validity of the subject was obtained by taking the opinions of the colleagues and by the expert evaluation. Item-total score correlation and Cronbach's alpha values were calculated for internal consistency/reliability. Exploratory and confirmatory factor analysis was performed for construct validity.

Results: The Cronbach Alpha value of the scale was found to be 0,821. Spearman-Brown coefficient was 0.813. As a result of the Basic Component Analysis, the factor loadings of all items were above the accepted value of 0,40. According to the Lawshe method, the scope validity values of all items were between 0.64–1.00 values above 0.59, which is the lower limit for 11 experts. According to confirmatory factor analysis, fit indexes of the scale (CFI = .97; NNFI = .96; SRMR = .05 and RMSEA = .06) were found.

Conclusion: According to the results of the study, it was determined that the Compassion Scale could be used as a valid and reliable scale in measuring the level of compassion of the operating room nurses.

Keywords: Nursing, care, compassion, validity, reliability

Introduction

The concept of compassion is defined as the motivation to help and empathize the individual who needs help in general (1–3). According to the Turkish Language Association, "is a feeling of sadness and pity because of the bad situation faced by one person or another creature" (4). Compassion with the combination of motivation, emotion, thought, and behavior; it is a cognitive process related to understanding the source of pain (5). In the literature, compassion is indicated as compassionate (sensitive) love, and it is stated as a behavioral, cognitive, and

emotional attitude to support other people in times of need. Compassion– this includes behavior, empathy, and sympathy. Neff and Pommier (2013) stated that empathy and compassion are very similar and sometimes used interchangeably (6). However, in general, compassion and empathy are defined as different concepts (7). In addition, compassion is a more active reaction process to the troubled person. Besides, compassion as a common norm in almost every culture is an indicator of an individual virtue (8).

Nurses spend a long time with individuals who need help. Nurses have important roles in creating positive environments in care areas and accelerating recovery. They use compassion as a key to fulfill these roles (9). Moreover, the fact that nurses witness the most vulnerable and special situations of the individuals they care for causes the compassionate care to come to the fore (8,10–13). Compassionate care is a holistic approach model that increases patient satisfaction, has positive physiological effects on the patient, and accelerates the recovery (14).

In the provision of health services, mutual trust, respect, effective communication, and cooperation with the patients and their families provide compassionate care. The compassionate presentation of patient care is expected from all health workers. In the literature, compassionate care practices; It has also been emphasized that it affects the management of symptoms positively in operating rooms, surgical clinics, intensive care units, and all other long-term care settings (14). However, bringing compassion and empathy can also cause negative effects on those who feel compassion (8).

Empathy for a patient may cause the individual to think of himself as a patient. This negative effect can lead to occupational burnout, especially in the areas of professionalism that continue to work between the concepts of compassion and empathy, such as nursing (11,12,15). The concept of compassion must be managed in order to prevent the level of occupational burnout from being unwanted due to empathy and therefore compassion. In order to manage the concept of compassion, factors affecting the level of compassion should be measured. In order to find and manage the factors affecting compassion, there is a need to measure the levels of compassion. In order to measure the level of compassion in the operating room nurses, who are involved in surgical interventions where trauma, pain, and suffering process is low or not, patient studies are not yet sufficient (14). Therefore, in this study, it was examined whether The Compassion Scale, which can measure the compassion for others with six dimensions, is a valid and reliable tool for operating room nurses. This study is thought to fill this gap in the literature.

Materials and Methods

Objective

In this study, it was aimed to examine whether the Compassion Scale, which can measure the compassion for others with six dimensions, is a valid and reliable tool for the operating room nurses

The Universe and Sample of Research

This methodological study was carried out between April-May 2017. The universe of the study completed at least one year in the public and private hospitals operating in the European side of Istanbul in the beginning of 2017 and operated nurses (N = 493). No sampling method was used in the study and all of the universe was included in the study (16). However, 214 nurses did not want to participate in the study. Forty-three participants who did not fully answer the questions in the Compassion Scale were excluded. For this reason, 236 nurses were included in the sample.

Data Collection Tools and Data Collection

Research data: Obtained by face-to-face survey method with “Introductory Information Form” and “Compassion Scale” to collect demographic information of operating room nurses participating in the study.

“Introductory Information Form” : It consists of questions such as age, education, gender, professional experience, marital status.

Compassion Scale: Developed by Pommier (17), adapted to Turkish by the Akdeniz and the Deniz (1), and able to measure compassion for others by six dimensions Kindness (6,8,16,24), Indifference (2,12,14,18), Common Humanity (11,15,17,20), Separation (3,5,10,22), Mindfulness (4,9,13,21), and Disengagement (1,7,19,23) 24-item – It is a 5-point Likert-type scale. Scoring of items in scale, 1 = Never, 2 = Rarely, 3 = Occasional 4 = Frequent, 5 = Always. It is calculated by inverting the scores of the sub-dimensions of indifference, separation and disengagement. The lowest possible score is 24, and the highest score is 120. As the score from the scale increases, the level of compassion of the operating room nurses is increasing.

As a result of the confirmatory factor analysis (CFA) performed by the Akdeniz and Deniz (1) the existence of six dimensions constituting the structure of the scale was confirmed. The Cronbach Alpha internal consistency reliability coefficient for the whole scale was .85. Factor loads of the sub-dimensions of the scale;

for the sub-dimension of kindness .61-.74, .56-.69 for indifference, .54-.83 for common humanity, .51-.73 separation, .55-.72 for mindfulness, and .58-.68 for disengagement from it ranges. The fit indices of the scale (CFI = .97; NNFI = .96; SRMR = .05 and RMSEA = .06) were found. The internal consistency reliability coefficients ranged from .57 to .77 for sub-dimensions. In the validity and reliability study of the Turkish version, it was determined that the English form scores of 41 people who have mastered English and Turkish languages and the Turkish form scores re-applied after 25 days were $r = .78$ ($p < .01$).

The reliability of the scale was assessed by item analysis, internal consistency, and time-invariance (test-retest). The repetition of the test was repeated by 30 participants twice in 2 weeks. These results were consistent with the findings obtained from the Akdeniz and the Deniz (1) and the scale was determined as six dimensions and 24 items. For the purpose of this study, the language validity of the scale was not done again because of the validity and reliability of the Turkish version. However, the suitability of the scope was evaluated by the experts in the scope of the Turkish culture and it was questioned whether there were any questions that could not be understood by the pilot study. The Turkish version of the scale was consistent.

Scope Validity of the Scale

The scope validity of the scale was determined according to the Lawshe method. For the content validity, 4 faculty members from the Department of Internal Medicine Nursing were informed to 4 faculty members from the Department of Human and Society, 2 operating room nurses, and 1 measurement and evaluation specialist. A form was prepared for expert opinions. In this form, which is sent to the experts by e-mail, (a) each item measures the targeted structure (b) the substance is related to the structure but is unnecessary, (c) the substance is graded as not measuring the targeted structure. In this method, the scope validity rates of the experts were gathered by collecting their opinions about any item. Coverage validity ratios were obtained by the lack of a ratio of the number of experts stating say necessary toplam opinion of any item to the total number of experts indicating the opinion of the article¹⁸. According to the expert opinion, the Turkish version was not understood and the items needed were to be corrected. During the pilot application, the participants had difficulty in understanding the questions.

Data Analysis

Test-retest, Cronbach Alpha internal consistency, and Spearman-Brown (Split Half) coefficients were examined for the reliability of the scale, and confirmatory

factor analysis was performed. For the reliability of the scale, the Lawshe (18,19) method and the Basic Component Analysis were performed. Scope Validity Ratio was examined and evaluated by 6 field experts and 5 academicians. In the Basic Component Analysis, factor load, KMO (Kaiser-Meyer-Olki and Barletsüs Test of Sphericity tests were performed. All analyzes were performed in SPSS 17.0 for Windows (SPSS Inc., Chicago, IL, USA) with a 95 % confidence interval. The distribution of the questions in the Personal Information Form was interpreted as frequency, percentage, and scale scores as mean, standard deviation. Results were evaluated at 95 % confidence interval and $p < 0.05$ significance level.

Ethical Aspects of Research

Ethics committee approval was obtained from the research institution. In order to implement the study, hospital administrations were contacted and information about the study was given and written permission was obtained. Participants received written and verbal consent to participate in the study.

Results

Demographic Characteristics of the Participants

In the study the nurses participating were 27.1 % of male and 72.9 % of female. The nurses were 60.2 % of 30 years and under 22.5 % 31–40 years old between, 10.2 % between 41–50 years old, 7.2 % were 5 years and over. 42.8 % of nurses had experience between 1–5 years, 18.6 % between 6–10 years, 19.1 % between 10–15 years, and 19.5 % had 15 years and more experience. 69.5 % of all nurses were married and 30.5 % were single. The mean scores of the tablo Compassion Scale of the operating room nurses are given in Tab. 1.

Tab. 1: The Mean Score of the Operating Room Nurses Compassion Scale (N 236)

	Mean	S.D	Min.	Max.
Kindness	3,68	0,72	4	20
Indifference	3,96	0,80	4	20
Common Humanity	3,98	0,93	4	20
Separation	3,32	0,72	4	20
Mindfulness	3,52	0,83	4	20
Disengagement	3,38	0,75	4	20
Compassion Scale Total	3,92	0,82	24	120

M: Mean, \pm S.D. Standard Deviation

In Tab. 1, the mean size of “Kindness Subscale” was ($3,68 \pm 0,72$), and the mean of the “Indifference Subscale” ($3,96 \pm 0,80$). $\pm 0,93$), “Common Humanity Subscale” average ($3,98 \pm 0,93$); Separation Subscale” average ($3,32 \pm 0,72$), Mindfulness Subscale average ($3,52 \pm 0,83$); Disengagement Subscale” average ($3,38 \pm 0,75$). The mean of Compassion Scale Total (3.92 ± 0.82) was found.

Lawshe Method Validity

According to the Lawshe method, the scope validity rates of all items were higher than the lower limit of 0.59 for 11 experts and between 0.64 and 1.00. The scope validity value of the article. Only suffering is a common experience for all people that the KGO value of the substance is 0.64 and above the limit value. Item Analysis and Factor Structure of the Scale

The item analysis of the scale was performed before construct validity analysis. Total score correlations of 24 items in the scale were examined. The item-total correlation coefficients of the scale were found to be $r = 0.37$ to 0.68 , positive and statistically significant. Principal Component Analysis was performed for the determination of factor structure. Kaiser-Meyer Olkin (KMO) coefficient of the scale was 0.76 and the result of Barlett test was $X^2 = 3223,652$; $p = 0.000$ ($p < 0.05$). The first factor analysis was carried out and the scale was composed of 7 sub-dimensions. However, in this first analysis, it was decided to keep the score at the highest point since the difference between the factors in which some items were in more than one dimension and the difference between them was greater than 0.10. After this process, it was determined that 24-item scale was collected in 6 sub-dimensions by using varimax perpendicular rotation technique. The total variance of the 6 factors determined was 51.480 %. The amount of variance explained by the factors; It was determined that 22.795 % of the kindness factor, 13.526 % of the indifference factor, 7.338 % of the common humanity factor, 7.623 % of the separation factor, 5.098 mindfulness, % 7.623 of the disengagement factor. Factor loads of these six dimensions were found to range; for kindness dimension, .45–.65 for indifference, .58–.79 for indifference, .45–.64 Common Humanity, .64–.72 for Separation, .58.76 for Mindfulness, and .71–.85 for Disengagement. The fit indices of the scale (CFI = .98; NNFI = .97; SRMR = .05 and RMSEA = .07) were determined. The internal consistency reliability coefficients were found to vary between .64 and .77 for sub-dimensions. The internal consistency coefficient of the scale was Cronbach’s alpha value of 0.821. Factor loads and factor loadings are shown in Tab. 3 as a result of factor analysis.

Tab. 2: Results of the Lawshe Analysis Conducted for Scope Validity (1)

	Required	Not Required	Scope Validation Rate Value
1. When people cry in front of me, I often don't feel anything at all..	11		1,00
2. Sometimes when people talk about their problems, I feel like I don't care.	10	1	0,82
3. I don't feel emotionally connected to people in pain.	10	1	0,82
4. I tend to listen patiently when people tell me their problems.	10	1	0,82
5. I can't really connect with other people when they're suffering.	11		1,00
6. If I see someone going through a difficult time, I try to be caring toward that person.	11		1,00
7. I don't think much about the concerns of others.	11		1,00
8. When others feel sadness, I try to comfort them..	10	1	0,82
9. I pay careful attention when other people talk to me	10	1	0,82
10. When I see someone feeling down, I feel like I can't relate to them.	10	1	0,82
11. Everyone feels down sometimes, it is part of being human.	11		1,00
12. When others are feeling troubled, I usually let someone else attend to them..	11		1,00
13. I notice when people are upset, even if they don't say anything.	11		1,00
14. Sometimes I am cold to others when they are down and out.	10	1	0,82
15. It's important to recognize that all people have weaknesses and no one's perfect..	10	1	0,82
16. I like to be there for others in times of difficulty..	10	1	0,82
17. Despite my differences with others, I know that everyone feels pain just like me.	10	1	0,82
18. I don't concern myself with other people's problems..	11		1,00
19. I often tune out when people tell me about their troubles.	11		1,00

(continued on next page)

Tab. 2: (continued)

	Required	Not Required	Scope Validation Rate Value
20. I don't concern myself with other people's problems..	9	2	0,64
21. When people tell me about their problems, I try to keep a balanced perspective on the situation	11		1,00
22. I feel detached from others when they tell me their tales of woe.	11		1,00
23. I try to avoid people who are experiencing a lot of pain..	10	1	0,82
24. My heart goes out to people who are unhappy.	10	1	0,82

In order to test the internal consistency within the scope of reliability, Chronbach Alpha values were examined. The total Cronbach Alpha value of the scale was 0.821. The sub-dimensions of the scale include Cronbach's Alpha values, Kindness; 0.76, Indifference; 0.72, 3. Common Humanity; 0.75, Separation 0.71. Mindfulness; 0.79 and Disengagement; 0.81. The relationship between the scale and its sub-dimensions was evaluated by the Spearman-Brown correlation analysis technique and a statistically significant positive correlation was found between the total score and all sub-dimension scores of the scale ($p < 0.001$ and $p < 0.005$) (Tab. 4).

Time-invariance (test-retest): For repetition of the test, 30 subjects were administered twice with 2 weeks intervals. Pearson correlation value was 0.76 ($p = 0.0009$).

DISCUSSION

In this study, it was evaluated whether The Compassion Scale adapted to Turkish by Akdeniz and Deniz (1) was valid in determining the level of compassion of the operating room nurses. Factor analysis and content (content) validity, item-total score correlation, internal consistency and time invariance methods were used in this evaluation. Also, the suitability of the Turkish culture was examined by the experts during the scope validity. Validity is a measure of whether a test or scale actually measures the feature it wants to measure. For this purpose, if a scale measures the feature it wants to measure correctly, it is considered valid. A valid scale must also be reliable. Reliability is defined as consistency between participants' responses to scale items (20).

Tab. 3: Factor Loads and Factor Groups of Scale Items

	Kindness	Indifference	Common Humanity	Separation	Mindfulness	Disengagement
C_6	,551					
C_8	,656					
C_16	,588					
C_24	,457					
C_2		-,589				
C_12		,798				
C_14		,675				
C_18		,630				
C_11			,550			
C_15			,641			
C_17			,448			
C_20			,592			
C_3				,735		
C_5				,625		
C_10				,741		
C_22				-,644		
C_4					,766	
C_9					-,314	
C_13					,642	
C_21					-,580	
C_1						-,715
C_7						,725
C_19						,795
C_23						,853

KMO: 0,764 X²: 3223,652 p<0,005

The Lawsh method was used for the scope validity of the scale. Again in the Lawshe method, the validity levels of all items are above the value of the .40 factor load accepted in the literature and the Scope validity value determined for 11 experts (18,19). Therefore, the scale was found to be sufficient to measure the level of compassion of the operating room nurses. It was determined that there was consensus among experts by taking expert opinion for the scope validity and that the scale expressions were appropriate for our culture and represent the perception of compassion for the operating room nurses.

Tab. 4: Correlation Analysis of Scale Dimensions

Faktörler	Mean	S.D	1	2	3	4	5	6
Kindness	3,68	0,72	1					
Indifference	3,96	0,80	,024	1				
Common Humanity	3,98	0,93	,054	,385**	1			
Separation	3,32	0,72	,454**	,177**	,212**	1		
Mindfulness	3,52	0,83	,367**	,259**	,118'	,479**	1	
Disengagement	3,38	0,75	,467'	,383**	,279**	,128'		1
Cronbach Alpha Reliability Coefficient			0,76	0,72	0,75	0,71	0,79	81

* <0.001, **p<0.005

In order to determine the factor structure, it was found that the items were collected under six factors reflecting the level of compassion of the operating room nurses and consisted of 24 items. These factors are kindness, indifference, common humanity, separation, mindfulness, and disengagement. According to Burnell and Agan (2013) in the first place on the scale where the patients evaluated the compassionate nurse behaviors, 1. Passing the pain, 2. Understanding the medical problems, 3. The nurse is professionally sufficient, 4. The ability to work within the team, 5. The practice of treating patients without judging is defined as compassionate behavior (21).

According to Neff's (2003) model, compassionate focuses on three dimensions. These dimensions are: 1. Goodness, 2. Common feelings of humanity, 3. It is defined as accepting people without judgment, as they are (22,23). Chambers and Ryder (2009) merciful care; with six basic components: 1. Empathy and sensitivity, 2. Dignity and respect, 3. Listening and response, 4. Cultural diversity and competence, 5. Elections and priorities, 6. Empowerment and defense (23). Van der Cingel (2011) in his study; it has a structure that is acceptable with at least seven dimensions of compassion (24). Compassion in nursing and patient communication is a tool that supports the professional process. These results show similar dimensions with the factor structure of the scale adapted to Turkish by Akdeniz and Deniz (1), and the level of compassion of the operating room nurses.

Although there are many methods used to test the reliability, the most commonly used are substance analysis, internal consistency, and time invariance (25). In the literature, it is stated that substances with a item-total correlation of 0.30 and higher distinguish the feature to be measured at the best degree. In this study, the item-total correlation values of the scale items were above 0.30,

indicating that the discriminative power of the substances was good (26). It can be said that the scale items distinguish well from the mercy levels of the operating room nurses.

Another measure that assesses the reliability of a scale is internal consistency. The most commonly used Cronbach Alpha reliability coefficient for evaluating internal consistency. Cronbach Alpha coefficient less than 0.40 is not reliable, it is very reliable between 0,40–0,59, it is highly reliable between 0,60–0,79, and it is highly reliable between 0,80–1,00 (16,20). In this study, the Cronbach Alpha coefficient of the Compassion Scale was 0.82 for the operating room nurses and had a good degree of reliability. In the study of Akdeniz and Deniz (2016), the Cronbach's Alpha value of the scale was 0.85 and Çingöl et al. (2018) found Cronbach's Alpha value to be 0.87 (1,13). The reliability results of this study are consistent with the literature. The reliability results of this study are consistent with the literature.

Another feature of a measuring instrument to be reliable is that it provides consistent results in repeated measurements. The most commonly used method is the test-retest method. The results of the two applications are evaluated by correlation analysis. The closer the correlation coefficient is to 1, the better is the time invariance of the test (20, 27). In this study, the correlation coefficient obtained by the test-re-test method is 0.76. This result shows that there is a strong relation between the measurements of the Compassion Scale in two separate times and shows the invariance of the scale according to time.

Result

Patient satisfaction levels can be increased with compassionate care practices that may be a quality indicator. By increasing the comfort of care, the patient can feel himself well. Therefore, there is a need to develop awareness about the concept of compassion and compassionate care, which are not subject to sufficient studies in the field of nursing. According to the results of this study, it is a valid and reliable measurement instrument of compassion scale in measuring the level of compassion of the operating room nurses. It can be said that the average score of the operating room nurses from the scale is high.

In the area of nursing, studies can be repeated to address the dimensions of compassion more comprehensively in a more diverse and larger sample. The concept of compassionate care – in-service trainings to graduate nurses and student nurses can be adopted with compassionate care issues added to renewed curriculum programs. Thus, it is thought that the sense of compassion will be developed and put into practice. In addition, measurement of the

concept of compassion, which may cause the occupational burnout of nurses in field applications, supporting the in-service trainings and making awareness raising studies in this field can help to achieve positive gains in field applications.

Limitations of the Research

The study is limited to the opinions of 236 operating room nurses working in private hospitals operating in the European side of Istanbul in 2017 and the data obtained from scale items.

Conflict of Interest

There is no conflict of interest by the authors.

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