Original Article

J Breast Health 2017; 13: x-x
DOI: 10.5152/tjbh.2017.3266

An Adaptation of the Short-Form Supportive Care Needs Survey Questionnaire (SCNS-SF 34) to Turkish

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ABSTRACT

Objective: In the study, Adaptation of The Short-Form Supportive Care Needs Survey Questionnaire (SCNS-SF 34) into Turkish, examination of its validity and reliability was aimed at.

Materials and Methods: The study was carried out between May and July, 2016 with 170 patients. The socio-demographic and clinical status was analyzed by means of number averages and standard deviation. After language validity, the content validity index was calculated. The split-scale analyses, which are reliability internal consistency tests, were performed with the Cronbach α coefficient and total item correlation. For structure validity, exploratory factor analysis was used.

Results: The average age of the patients is 55.53±11.43 years and average time since diagnosis is 5.69 ±5.06 years. The content validity index of the scale was calculated as 0.83. The Cronbach α coefficient is 0.93. In terms of the item total score correlation, all correlation coefficients except items 18 and 19 were between 0.36 and 0.81 and $p<0.001$. Items 18 and 19 were excluded. Following the exploratory factor analysis, items 13, 17 and 32 were excluded as their two detected high weight values were below 0.10. The descriptive factor analysis of item 29, four factors with eigenvalues over one and the total variance described by these four values was 68.83%. The factors were determined to be healthcare service and informing, psychology, sexuality and daily life.

Conclusion: It was confirmed that the SCNS-SF 29^{Tr} is a valid and reliable means for the Turkish society for the determination of the supportive care needs of breast cancer patients.

Keywords: Supportive care, breast cancer, validity, reliability

Introduction

Determining and managing the unfulfilled supportive care needs of the patients is among the base components of healthcare (1). Supportive care may be considered as the determination of the care needs of the patients with and patient-centered approach and fulfilling those needs effectively (2). Before and during diagnosis, throughout the treatment, in the terminal period, it is the supportive care that helps the patient and the family to cope with the illness (3).

Breast cancer is the most common cancer type among Turkish women. Every one out of four women diagnosed with cancer has breast cancer. The number of the women diagnosed with breast cancer in one year is 17.531 in Turkey (4). It is vital to acknowledge the complete effects of the unfulfilled needs of breast cancer patient on their quality of life to take effective and timely action. Various studies have shown that the unfulfilled care needs of cancer patients occur mostly in the early stages of cancer survival and that this has a negative effect on life quality of patients (5-7).

Besides, various other studies put forward that supportive care is associated with longer survival and better life quality (7-9). In this respect, it is necessary to determine the supportive care needs of breast cancer patients and improve their quality of life. Patients have a multitude of care need dimensions; these dimensions include physical, practical-daily life activities, economic, environmental, cultural, knowledge, communication, emotional, psychosocial, psychosexual, spiritual-existential areas (10). Identifying unfulfilled needs will enable the improvement of the resources of cancer patients and the re-planning of the care (3). Recently, an interest in formal and systematical identification of care needs has been rising. The Cancer Patient Needs Questionnaire and the Supportive Care Needs Survey are commonly-used scales for this identification (10, 11). In Turkey, there is not a valid and reliable assessment instrument to identify the supportive care needs of cancer patients.

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Received: 26.09.2016
Accepted: 07.11.2016
Available Online Date: 04.04.2017

The Long-Form Supportive Care Needs Survey (SCNS-LF 59) and The Short-Form Supportive Care Needs Survey Questionnaire (SCNS-SF 34) have been designed so as to evaluate the care needs of cancer patients (12). SCNS-SF 34, has been translated to the original languages of China, Germany, France, Japan, Australia, Italy and Mexico, and has been proven to be a valid and reliable assessment instrument for identifying the care needs (13-20). The SCNS-SF 34 consists of 34 items aimed at identifying the needs of cancer patients and related with five areas which are psychology, healthcare system and information, physical and daily life and sexuality. A high score leads to the consideration that the perceived care need is high (12).

The validity of an assessment instrument amounts to its ability to assess the targeted feature truly and independently of any other feature whilst the reliability of an assessment tool is producing similar data viably under the same circumstances. It is recommended that the validity and reliability of the scales developed in other cultures, introduced in publications and their validity and reliability and other qualities well-identified be performed while adapting them to the Turkish society (21, 22). In identifying the validity and reliability of scales, language validity in psycholinguistic assessment, and validity and reliability tests in psychometric assessment is indispensable (22).

Based on these approaches, the aim was to tailor the SCNS-SF 34, which deals with the supportive care needs of cancer patients, to Turkish and investigate its validity and reliability.

Materials and Methods

Type of Research

This is a methodological research done with the aim of testing the validity and reliability of SCNS-SF 34, designed to identify the supportive needs of breast cancer patients, in Turkey.

Population and Sample of the Study

The population of the study consisted of patients diagnosed with breast cancer who were admitted to the breast diseases polyclinic of a university hospital, between May and July, 2016. In the case of methodological researches, it is advised that the number of the samples be at least five times the number of the scale items (23). Due to the fact that SCNS-SF includes 34 items, 170 patients diagnosed with breast cancer - being at least five times the number of scale items - were included in the sample. Patients who were diagnosed at least one month before - since the questions of the items of SCNS-SF 34 assess the recent month - , willing to take part in the study, over 18 years of age and have no cognitive or/and oral or/and physical disorders were included.

Data Collection Tools

The research data was collected via the Socio-demographic and Clinical Status Form. The SCNS-SF 34 was used via being adapted to the Turkish social structure. The SCNS-SF 34 is made up of 34 items identifying the needs of cancer patients. It has a five-factor structure consisting of health system and information, psychological, physical and daily living, patient care and support, sexuality needs. The participants who are cancer patients were asked to identify their need for within the recent month help using the five answer choices. These five choices in the scale were measured with the following Likert-type items; 1=Not applicable, 2=Satisfied, 3=Low need, 4=Moderate need, and 5=High need. The sub-dimension scores are attained by the addition of each item points. A high score means leads to evaluate that the perceived need is high. Alternatively, the scale can be used to elicit information about the (non-)existence of the perceived unfulfilled needs and their numbers (a grade of 3 or higher stands for an unfulfilled need). The explained variance in the original study is 73% and the Cronbach α value is between 0.86 and 0.90 in sub-dimensions (12).

Ethics of the Study

A written permit was obtained from the Ethical Committee of Ege University Nursing Faculty for the study (Decision dated 23.11.2016 and numbered 27344949/525-3132). Also, permission from Dr. Allison Boyes, the Head of the Center of Healthcare Researches and Psycho-Oncology of New South Wales Cancer Council, who created the SCNS-SF 34, to use the scale was received. A written permit was obtained from Ege University School of Medicine Hospital (Decision dated 18.01.2016 and dated 27344949-28-200). The patients were informed about the aim and the procedure, and their verbal consent was received prior to the study.

Translation of the Scale to Turkish

Initially, the language adaptation of the SCNS-SF 34 was performed. The SCNS-SF 34 was first translated to Turkish from English by the researchers. Following this, it was translated to Turkish by two native speaker linguists separately for language validity. The translations were assessed by the researcher and a specialist faculty member, via taking the opinion of a Turkish language specialist and the most appropriate translation was chosen. Later, the form that had been translated into Turkish was back-translated to its original language by an expert who is well-familiarized with the original language of the scale and the culture of the language, and another expert who knows Turkish well. This translation was compared with the original and the Turkish versions of those items that did not match were revised. The translation was later assessed by nine nursing and one medical faculty members to finalize the scale. Its language validity having been established, the scale was applied on ten patients and it was revealed that the items were found as understandable by the patients.

Statistical Analysis

The data obtained from the research was analyzed using the Statistical Package for the Social Sciences for Windows 21.0 (IBM SPSS Statistics for Windows, Version 21.0. Armonk, NY: IBM Corp.) package software. The socio-demographic and clinical statuses of the patients were analyzed with numbers, percentages, averages and standard deviation.

For validity test, expert opinions on content validity were taken and the content validity index (CVI) was figured. For the numeric verification of the content validity, the experts were provided with a grading scale developed by the researchers. The content validity test was performed with a technique developed by Davis (1992). The Davis technique grades expert opinions in a four-choice way. The choices are as follows; 1=not relevant, 2=somewhat relevant, 3=quite relevant, 4=highly relevant. The CVI is found out by dividing the number of the experts that mark the choices and with the total number of the experts and subtracting 1. Instead of comparing this value with a statistical scale, the 0.80 value is accepted as the criterion (3, 4, 24-26).

The reliability of SCNS-SF 34 was assessed with internal consistency tests. Internal consistency is the reliability test which identifies whether a scale has the ability of assessing with all its aspects (27). With this aim, initially the split half method was used with Cronbach α coefficient and item-total score correlation in the internal consistency analysis of SCNS-SF 34. The scale items were divided into the first half and the second half. The Cronbach α coefficient was calculated. The Cronbach α reliability coefficient is a weighted standard variation average which

is found by comparing the total variance of the items with the general variance. According to the numeric quantity of the Cronbach α reliability coefficient value, the reliability and the internal consistency of the scale is regarded as follows; α<0.40=not reliable, 0.40≤α<0.50=very low reliability, 0.50≤α<0.60=low reliability, 0.60≤α<0.70=sufficient reliability, 0.70≤α<0.90=high reliability, α≥0.90=very high reliability. Item total score correlation was also performed. That the correlation coefficient for each item of a scale is high shows that the item can effectively and sufficiently test the aimed behavior. It is recommended that the acceptable correlation coefficient be over 0.25 in item selection (28). Whether the scale catered for the target group and the homogeneity of the individuals in the group and the items were analyzed with the Hotelling's T^2 test. On condition that the individuals are not homogenous, the reliability of the scale might be low due to the difference of the target society even if the scale is a reliable one.

The exploratory factor analysis was used for structural validity. A principle component analysis was done. Since a correlation among the factors was found, oblique rotation was used for factor analysis. With the aim of assessing the compatibility of the date, the Bartlett's sphericity test and the Kaiser-Meyer-Olkin (KMO) test was performed. According to the KMO criteria, 0.90-1.00 is perfect, 0.80-0.89 is very good, 0.70-0.79 is good, 0.60-0.69 is mediocre, 0.50-0.59 is weak and below 0.50 is not acceptable (23). The fact that the KMO value is over 0.50 shows that the sample size is appropriate for validity analysis (27). If an item shows a high weight value in two factors, the difference is considered. The minimum difference between two high weight values should be 0.10. If the difference is smaller than 0.10, the item is a cyclical one and should be removed (29).

Results

Participant Characteristics

The average age of patients was 55.53+11.43 years. The majority of patients were female (%97.1) and married (88.2%). 45.9% of patients graduated from primary school and 67.6% of patients were unemployed. 44.1 % of patients had Stage 1 breast cancer and the average time since the diagnosis was 5.69 ±5.06 years. An overview of the socio-demographical status of the patients that took part in the study is shown in Table 1.

Content Validity of the Scale

The SCNS-SF 34 was submitted to ten experts that consented to assess it. The assessing experts were nine faculty members of nursing and one specialist physician. Following the ascertainment of the experts, the CVI was calculated. The CVI of the SCNS-SF 34 items is 0.80-1.00. The CVI of the scale was found out to be 0.83.

Scale Reliability Analyses

The split half method that was used for the internal consistency analysis of SCNS-SF 34 included the division of the scale items as the first half (17 items) and the second half. The α value for the first half is 0.87 while it is 0.92 for the second half. The Spearman-Brown coefficient for the whole of the scale is 0.74. The Guttman Split-Half coefficient is 0.73. These results indicate that the scale is a reliable one with internal consistency. By the analysis (Hotelling's T^2 test=425.742, F=10.45, p<.001), it can be maintained that the scale is a powerful and authentic one that consists of homogenous structures. The Cronbach α reliability coefficient, calculated in the scope of internal reliability, was detected as 0.93. The item-score correlation that reveals how related the items were with the whole of the scale is given in Table 2.

Table 1. The characteristics of the patients (n=170)

	Mean±SD	Min.- Max.
Age (years)	55.53±11.43	19-79
Diagnosed time (years)	5.69±5.06	1-25
	n	**%**
Gender		
Female	165	97.1
Male	5	2.9
Marital status		
Married	150	88.2
Single	20	11.8
Education		
Primary school	78	45.9
Secondary school	36	21.2
High school	32	18.8
University	5	2.9
Postgraduate	19	11.2
Occupation		
Employed	16	9.4
Unemployed	115	67.6
Retired	39	22.9
Cancer stage		
Stage I	75	44.1
Stage II	72	42.4
Stage III	18	10.6
Stage IV	5	2.9
Type of treatment		
Surgery	34	20.0
Surgery + Chemotherapy	33	19.4
Surgery + Radiotherapy	18	10.6
Surgery + Hormone Therapy	3	1.8
Surgery + Chemotherapy + Radiotherapy	57	33.5
Surgery + Chemotherapy + Hormone Therapy	7	4.1
Surgery + Radiotherapy + Hormone Therapy	4	2.4
Surgery + Chemotherapy + Radiotherapy + Hormone Therapy	14	8.2
Total	170	100

SD: standard deviation; Min: minimum; Max: maximum

Following the investigation of the item-total score correlations of the SCNS-SF 34, items 18 and 19 were removed as their correlation coefficient was below 0.25. The correlation coefficient of the other items were between 0.36 and 0.81, and the importance level of α=0.001 was statistically significant (p<0.001).

Table 2. The principal analysis results of the SCNS-SF34

Factor	Item number	Items	Factor loadings	Item total score correlation
Health care service and informing	27	Being informed about your test results as soon as feasible	0.87	0.77
	29	Being informed about things you can do to help yourself to get well	0.87	0.81
	28	Being informed about cancer which is under control or diminishing (i.e., remission)	0.87	0.74
	26	Being adequately informed about the benefits and side-effects of treatments before you choose to have them	0.85	0.76
	23	Being given written information about the important aspects of your care	0.81	0.76
	21	Hospital staff attending promptly to your physical needs	0.81	0.68
	22	Hospital staff acknowledging and showing sensitivity to your feelings and emotional needs	0.81	0.70
	24	Being given information (written, diagrams, drawings) about aspects of managing your illness and side-effects at home	0.80	0.76
	25	Being given explanations of those tests for which you would like explanations	0.79	0.78
	12	Learning to feel in control of your situation	0.78	0.62
	20	Reassurance by medical staff that the way you feel is normal	0.78	0.61
	33	Being treated in a hospital or clinic that is as physically pleasant as possible	0.70	0.67
	34	Having one member of hospital staff with whom you can talk to about all aspects of your condition treatment and follow-up	0.68	0.63
Internal consistency coefficients α: 0.95				Variance %36.16
Psychology	8	Feelings of sadness	0.78	0.60
	9	Fears about the cancer spreading	0.77	0.61
	7	Feeling down or depressed	0.77	0.56
	6	Anxiety	0.76	0.44
	10	Worry that the results of treatment are beyond your control	0.73	0.42
	11	Uncertainty about the future	0.71	0.43
	14	Feelings about death and dying	0.70	0.42
	30	Having Access to Professional counselling (e.g. psychologist, social worker, counsellor, nurse specialist) if you family or friends need it	0.50	0.43
Internal consistency coefficients α: 0.88				Variance %15.47
Sexuality	15	Changes in sexual feelings	0.90	0.42
	16	Changes in your sexual relationships	0.89	0.41
	31	Being given information about sexual relationships	0.80	0.43
Internal consistency coefficients α: 0.91				Variance %10.07
Daily life	2	Lack of energy/tiredness	0.91	0.44
	3	Feeling unwell a lot of the time	0.82	0.45
	4	Work around the home	0.73	0.41
	5	Not being able to do the things you used to do	0.66	0.55
	1	Pain	0.53	0.45
Internal consistency coefficients α:0.83				Variance %7.12
The Cronbach α coefficient=0.93				Total variance %68.83
Kaiser-Meyer-Olkin=0.84				Bartlett's Sphericity test x^2=4959.326 (p<.001)

SCNS: supportive care needs survey

Structural Validity of the Scale

An exploratory factor analysis was done with the aim of assessing the structural validity of the SCNS-SF 34. The Bartlett's sphericity test gave the 5456.597 value and p<0.01 level, and the Kaiser-Meyer-Olkin (KMO) sample value was 0.84.

In line with these results, it was determined that 32 items were formed by identifying the total variance as 65.95% under four factors. The variance identified by the first factor was 35.41%; the variance identified by the second factor was 14.26%; the variance identified by the third factor was 9.50%; and the variance identified by the fourth factor was 6.77%. Following the examination of the factor weights of the 32-item scale, items 17 and 32, which were determined as cyclical items and had a difference of at least 0.10 between two weight values, were removed. Item 13 was also removed after the analysis following the removal of the above-mentioned items, as it weighed value on multiple items and the analyses were re-performed with the remaining 29 items. After the repetition of the analyses, it was found out that the 29 items identified in the ratio of 68.83 under four factors. The variance identified by factor one was 36.16%; the variance identified by factor two was 15.47%; the variance identified by the third factor was 10.07%; and the variance identified by factor four was 7.12%. The factor weights, the variance ratios that they identify, their internal consistency coefficients, their KMO values and the findings of the Bartlett's sphericity test are given in Table 2.

Discussion and Conclusion

The study was conducted in a methodological manner with the aim of adapting the SCNS-SF 34 to Turkish society and testing its validity and reliability. During the validity and reliability analyses, its internal consistency, language, content and structural validity were dealt with.

The adaptation of the SCNS-SF 34 to Turkish society was tested on breast cancer patients. It was found out that patient groups diagnosed with breast cancer, prostate cancer, colorectal cancer and other solid cancer types were worked with in the studies in various societies (13-20).

The CVI of the scale was 0.83. It was elicited that the experts had a consensus on the content of the items. Following the content validity analysis of the SCNS-SF 34 adapted in Mexico, a replacement or removal of the items was not exercised since the CVI was bigger than 0.7 in all the items (20).

In the internal consistency analysis of the SCNS-SF 34, the total item correlation of items 18 and 19 were detected below 0.25. That the correlation coefficient of each item is high shows that the item can effectively and adequately assess behavior. The acceptable correlation coefficient being over 0.25 is recommended (28). Therefore, these items were excluded from the scale. The correlation of the items related with indecisiveness is high. This is because a high number of specialist or hospital options exist. This can be interpreted as the patients' contentedness with the healthcare given in the hospitals and their oncologists.

The Bartlett's sphericity test that was conducted to assess the structural validity of the SCNS-SF 34 gave out a value of 5456.597and a level of p<0.01. This result indicates that the data set is appropriate for a factor analysis. KMO sample value was 0.84. The fact that the KMO criterion is 0.84 means that the sample size is quite convenient. As a result of the 32-item factor analysis, items 17 and 32 were removed from the scale due to having a detected high weight value difference that is over 0.10, and the test was repeated. After the re-test, item 13 was also removed since it was loaded more than once. The analyses were repeated with 29 items. It was seen that the total variance of 29 items under four factors was 68.83%. The Cronbach α value of four factors differs between 0.83 and 0.95. While the developed original structure of the scale is a five-factor one, the total declared variance is 73%. The Cronbach α value of the factors varies between 0.86 and 0.96 (12). The SCNS-SF 34 adapted to the Mexican society is a five-factor scale and the declared total variance is 59%. The Cronbach α value of the factors vary between 0.78 and 0.90 (20). The SCNS-SF 34 for the German society consists of five factors. Its total declared variance between 34 factors is 68%. The Cronbach α value between the factors varies between 0.82 and 0.95 (15). The SCNS-SF 34 adapted to the Chinese society has four factors and 33 items. The total declared variance for the items is 54%. Between the factors, the Cronbach α value varies between 0.75 and 0.92 (13) The SCNS-SF 34 for the Australian society is made up of five factors and the total declared variance for its 34 items remains unspecified. The Cronbach α value of the factors varies between 0.82 and 0.96 (18). Having five factors, the total declared variance of the 34 items of the SCNS-SF 34 adapted to the Japanese society is 74.6%. The Cronbach α value between the factors varies between 0.87 and 0.96 (17). Based on cultural differences, addition, removal or alteration of items can occur. In other words, in case of an item of the scale being not appropriate for the culture it is adapted to, the item can be altered or removed. In this study, the differences are the cultural differences in terms of perceiving the scale.

The Short-Form Supportive Care Needs Survey Questionnaire in Turkish (SCNS-SF 29^{Tr}) is a valid and reliable instrument for the Turkish society in terms of identifying the supportive care needs of breast cancer patients. The scale contains a total of 29 items. Its validity has been established via language validity, content validity and structure validity.

Using the SCNS-SF 29^{Tr} on breast cancer patients in the scope of prospective-identifying studies, with the aim of identifying their needs, testing it for the identification of other cancer patients' needs and working with larger patient groups are recommended.

Ethics Committee Approval: Ethics committee approval was received for this study from Ege University Nursing Faculty.

Informed Consent: Verbal informed consent was obtained from patients who participated in this study.

Peer-review: Externally peer-reviewed.

Author Contributions: Concept - T.Ö., Ö.S., A.A.; Design - T.Ö., Ö.S., A.A.; Supervision - T.Ö.; Data Collection and/or Processing - Ö.S., A.A.; Analysis and/or Interpretation - Ö.S.; Literature Review - T.Ö., Ö.S., A.A.; Writing - T.Ö., Ö.S.; Critical Review - T.Ö., Ö.S.

Conflict of Interest: No conflict of interest was declared by the authors.

Financial Disclosure: The authors declared that this study has received no financial support.

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