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Psychometric evaluation of Self-Assessed Support Needs of women with breast cancer Scale

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Aims. The issue of self-assessed support needs of women with breast cancer has not been studied enough although it is an important subject for women's health in Turkey. Most of the studies concerning breast cancer patients are about quality of life and life satisfaction. This study aimed to adapt an English version of the Self-Assessed Support Needs of women with breast cancer Scale for Turkish women with breast cancer and to evaluate its psychometric properties.

Design. A descriptive study.

Methods. The sample consisted of 143 women with breast cancer who attended the outpatient and inpatient oncology clinics. Data were collected by a structured questionnaire including demographic characteristics and the Self-Assessed Support Needs of women with breast cancer Scale. Item analysis, principal components analysis, internal consistency reliability and Cronbach's alpha were used to measure the psychometric properties of the 54-item scale.

Results. In the assessment of construct validity, the principal components method of factor analysis was performed. Seven factors were identified with eigenvalues >1 explained 52·1% of the total variance (diagnosis, treatment, support, femininity and body image, family and friends, information and after care). Internal reliability coefficients of these seven factor-based scales were found to be substantial, ranging from 0·71 to 0·84.

Conclusion. The present study provides evidence of the Self-Assessed Support Needs of women with breast cancer Scale's validity, reliability and acceptability. This scale should be further evaluated; with a large enough sample size, in different regions in Turkey and diverse populations of world.

Relevance to clinical practice. The scale has potential applications. It can be used both as a research or a regular screening tool with clinical settings. The use of the scale in clinics will enable identification of self-management activities in patients with breast cancer. Assessment of the self-assessed support needs of women with breast cancer should be an essential part of nursing practice.

Key words: breast cancer, measures, nursing, psychometrics, self-assessment, support needs

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Introduction

Breast cancer is the most commonly diagnosed cancer (24·9%) and the most common cause of mortality in Turkish women (Health Ministry 2002). However, improvements in treatment and early diagnosis of breast cancer may have led to increased expected life years after diagnosis in Turkey (Health Ministry 2003, Cobanoglu *et al.* 2004, Asoglu *et al.* 2005) and other countries (Bonadonna *et al.* 1995, Jacobson *et al.* 1995). Diagnosis cause considerable psychological, physical and social dysfunction for many women with breast cancer (Meredith *et al.* 1996, Newell *et al.* 1999, Todd *et al.* 2002).

Hellbom *et al.* (1998) conducted a study on methodology including a combination of individualized psychological interventions, intensified primary care, dietician consultation and rehabilitation of colorectal and gastric patients suffering from cancer. This methodology consists of eight sessions including a combination of support and rehabilitation which starts after three months following the diagnosis. Hellbom *et al.* (1998) found that this kind of methodology can be applied in the field of job, patient satisfaction and needs assessment which are the morbidity outcomes of cancer patients. While quality of life evaluations have gauged the ramifications of the disease for different aspects of life experience (Gustafson *et al.* 1993, Skeel 1993), patient satisfaction surveys have more closely focused on perceived quality of care issues (Johnson Vickberga *et al.* 2001). In contrast, needs assessment spans both quality of life and care issues when the impact of disease on patients' needs is assessed. Regardless of methodologies, the common goal is to acquire information about health outcomes related to the improvement of the quality of patient care and the reduction of cancer-related morbidity (Lindop & Cannon 2001). However, compared with other methodologies, 'needs assessment' offer a number of advantages (Gustafson *et al.* 1993, Baider & Bengel 2001, Tan & Karabulutlu 2005). Firstly, they enable direct assessment of patients' perceived needs and provide more understanding of needed resources. Secondly, they allow the identification of the magnitude of need for help, thereby allowing some prioritization of service needs so that resources can be allocated where the need is most urgent. Other than the above advantages, it also enables the identification of individuals and/or patient subgroups with higher level needs. Therefore, needs assessment potentially enables prevention and/or reduction of problems through appropriate early intervention (Gustafson *et al.* 1993, Baider & Bengel 2001, Tan & Karabulutlu 2005). Despite this, the potential of needs assessment of cancer appears not to have been met in cancer patients generally (Spiegel 1994, Foot 1996).

This paper describes the psychometric evaluation of a subjective, Self-Assessed Support Needs of women with breast cancer Scale (SASNS) which was designed to measure the needs of the breast cancer patients (Lindop & Cannon 2001). Specifically, this study aimed to (i) assess content and construct validity of and to (ii) determine the internal reliability of SASNS.

The SASNS provides a direct and comprehensive assessment of the multidimensional impact of breast on the lives of generic breast cancer patients. It was developed by Lindop and Cannon (2001) on breast cancer patients to determine the current needs for help in different life areas with demonstrable reliability and validity. The SASNS was used for the measurement. The questionnaire consists of seven factors. These factors are diagnosis, treatment, support, femininity and body image, family and friends, information and after care. These categories and their associated needs formed a 54-item questionnaire. Lindop and Cannon established these factors by semi-structured interviews with a purposive sample of 12 women with a diagnosis of breast cancer who were chosen from records. Each statement of need was measured on a five-point Likert scale, ranging from no importance (scored 1) to not very important (2), moderately important (3), important (4) and extremely important (5). Lindop and Cannon did not report factor loadings of the items and internal consistency reliability and validity of the scale. The self-assessed support needs of women with breast cancer had never been studied by any researcher on the topic of breast cancer in Turkey. Most of studies regarding women with breast cancer patients were about quality of life and life satisfaction.

The purpose of this study was to adapt the SASNS (Lindop & Cannon 2001) to the Turkish language and to find the validity and the reliability of the Turkish version.

Methods

Design

The study used a descriptive design. To ensure the quality of the adapted scale, international norms were performed while carrying out the adaptation. The phases carried out were: (i) translation into the Turkish language from the English version and back translation into English; (ii) content analysis by a panel of specialists; and (iii) pretest and psychometric testing (factor analysis, a reliability coefficient and inter-item correlations).

Participants

The sample of this study was 143 women with breast cancer who previously underwent mastectomy and were at the stage II of cancer and who applied to the Medical Oncology Department of the Yakutiye Hospital between 10 January 2003 and 30 October 2004. Thus, this study was carried out at the outpatient and inpatient medical oncology clinics, where patients were examined by regular follow-up evaluation. The women were selected through convenience sampling method to form the study group. The eligibility criteria were: (i) had registered with a primary diagnosis of breast cancer in the oncology clinic; (ii) aged 18 years or upper, (iii) had a surgical treatment in the history, (iv) had been able to read and understand Turkish language and (v) did not have any hind of metastasis.

Translation procedures

Back-translation of the Turkish version into English was carried out by two Turkish lecturers who taught English. The two translated versions were compared by the author and analysed until there was a consensus regarding the initial translation. The initial translation into Turkish was back-translated into English. The translation phase checked discrepancies between content and meaning of the original version and the translated instrument. All versions were evaluated by the author and a final version was formed.

Content validity

To test item clarity and content validity, the translated version was submitted to a panel consisting of seven specialists who were working in the area of knowledge of the instrument. They were informed concerning the measures and concepts involved by the author. This multidisciplinary panel comprised two public health specialists, two experts who had published issue on breast cancer and three nurses who had conducted research in the field of oncology. Each of the panel members was asked to evaluate the content of the final translated version of the SASNS compared with the original instrument. Experts were asked to evaluate each item at the scale by using a 5-point Likert scale: 1 = no importance, 2 = not very important, 3 = moderately important, 4 = important and 5 = extremely important.

Pretest

Once the final version had been developed, a pilot study on subjects selected from the target population should be undertaken to test the equivalency, reliability and score distribution. The final version of the translated instrument was applied to a small pilot group consisting of 20 women in order to pretest the instrument. Pretest was conducted at the outpatient and inpatient medical oncology clinics where the original study was planned to be done. In order to simplify the recording of doubts and suggestions concerning the scale, a questionnaire for this research phase was used. The questionnaire requested general information from the interviewee, such as gender, age, civil status and occupation. An open-ended question to record doubts and suggestions was provided for each one of the items.

Psychometric testing

Internal consistency and homogeneity

Cronbach's alpha was calculated to determine internal consistency. Clark and Watson (1995) indicated that internal consistency may be a necessary condition for homogeneity or unidimensionality of a scale and Cronbach's alpha should be 0·70 and more. Besides, the item-total correlations and the mean inter-item correlations were included in the analysis. Clark and Watson (1995) recommended using the inter-item correlation as a criterion for internal consistency. This should be greater than or equal to 0·15. They pointed out that this average value could be a bias and all individual inter-item correlation should be within these limits. One can only be ensured of undimensionality if all individual inter-item correlations are clustered closely around the mean inter-item correlation.

Construct validity

The data were analysed using factor analysis (principal component analysis and varimax rotation). To attain the best fitting structure and the correct number of factors, the following criteria were used: eigenvalues higher than 1·0, factor loadings higher than 0·40 and the so-called 'elbow criterion' regarding the eigenvalues (De Heus *et al.* 1995). Before conducting the factor analysis of the SASNS, Kaiser–Meyer–Olkin measure of sampling adequacy (KMO) and Bartlett's test was calculated to evaluate whether the sample was large enough to perform a satisfactory factor analysis. The KMO measures the sampling adequacy that p-value should be greater than 0·05 for a satisfactory factor analysis to proceed.

Ethical considerations

Permission to undertake this study was gained from the ethical committee at the Atatürk University and informed consent was obtained from each participant. The patients

were informed about the purpose of the research. The participants were assured of their right to refuse to participate or to withdraw from the study at any stage. Anonymity and confidentiality of participants were guaranteed.

Procedure and data collection

Data were collected using questionnaire including demographic characteristics and the SASNS. The researcher visited the oncology clinic two days (Monday and Friday) in every week and conducted interviews with the patients. The researcher introduced the questionnaire to the participants and explained the material covered. Then, the participants read the questionnaire and marked their answers on the sheets. The questionnaire took approximately 20 minutes to complete and could be understood by people with minimal reading ability. The questionnaire was given to the women in a separate quiet room of the oncology clinic. All of the participants completed the questionnaire.

Data analysis

Pearson's product–moment correlation was used to determine correlation scores of items and the total scale. Factor analysis was used to establish the construct of the scale and factor loadings of items of the scale. Cronbach's alpha was calculated to find internal consistency reliability.

Results

Research population

The demographic and disease/treatment characteristics of the participants are shown in Table 1. The majority of the sample was aged 20–45 years. About 86·7% of them were married and 44·1% had graduated from primary school. The mean duration of breast cancer since diagnosis was 2·9 SD 2·8 years. The majority of the patients had received chemotherapy (Table 1).

Table 1 The demographic and disease/treatment characteristics of the women

Demographic characteristics ($n = 143$)	
Diagnosis duration (years), mean ± SD	2·9 ± 2·8
Age ranges (years), *N* (%)	
20–45	62 (43·4)
46–53	53 (37·1)
> 54	28 (19·6)
Education level, *N* (%)	
< Primary school	48 (33·6)
Primary school	63 (44·1)
High school	24 (16·8)
University	8 (5·6)
Marital status, *N* (%)	
Married	124 (86·7)
Single	19 (13·3)
Treatment characteristics, *N* (%)	
Hormone therapy	12 (8·3)
Radiotherapy and chemotherapy	57 (39·9)
Chemotherapy	66 (46·2)
Hormone, radio and chemotherapy	8 (5·6)
Surgery	
Only mastectomy	71 (49·7)
Vide local excision	72 (50·3)
Total	143 (100·0)

Content validity

The translated scale, consisting of 54 items, was judged by the expert panel on relevance and phrasing of the instrument items. For each item, experts could suggest possible improvements in wording. Subsequent wording revisions of the Turkish instrument were made and discussed each time by the panel members till agreement about the content was reached. Then, the panel reviewed regarding the content of Turkish version of the SASNS until there was no need to modify its translation and content.

Internal consistency

The instruments were completed by 143 women and were analysed. The SASNS was found to have an overall coefficient alpha of 0·93. Alpha of the seven factors ranged from 0·71–0·84 (Table 2). The corrected item-total correlations were adequate criteria for the items and the item-total correlations ranged from 0·34–0·63.

Construct validity

The calculated KMO was 0·80 and it indicated that the sample was large enough to perform a satisfactory factor analysis. The first step of the factor analysis was a principal component analysis. Eigenvalues greater than 1 was used to determine the number of factors. The analysis revealed seven factors with an eigenvalue of higher than 1 (Table 2). The principal components analysis was used in order to explain the variations of the total scale and its factors. The seven factors all together explained 52·1% of the variance. Internal consistency reliability was 0·93 for the whole scale. For the first factor, Cronbach's alpha was 0·83 and factor loadings of scale's items were found to deal with diagnosis subscale. This

Table 2 Rotated factor loadings of items of the scale ($n = 143$)

Items and factors of the scale	Factor 1 Diagnosis	Factor 2 Treatment	Factor 3 Support	Factor 4 Femininity and body image	Factor 5 Family and friends	Factor 6 Information	Factor 7 After care
Coping with feelings of shock and anxiety at being told that I had breast cancer	0·668	0·270	$4{\cdot}878 \times 10^{-3}$	$-3{\cdot}589 \times 10^{-2}$	$2{\cdot}436 \times 10^{-2}$	−0·152	−0·237
Dealing with a sense of immediate and future loss	0·679	0·306	$-5{\cdot}913 \times 10^{-2}$	0·188	$1{\cdot}189 \times 10^{-2}$	−0·194	$-8{\cdot}445 \times 10^{-2}$
Being able to handle a sense of loneliness and isolation	0·766	0·306	−0·201	$-2{\cdot}486 \times 10^{-2}$	0·186	$-6{\cdot}239 \times 10^{-2}$	−0·268
Knowing how to deal with initial symptoms	0·712	0·279	−0·243	$-5{\cdot}404 \times 10^{-2}$	−0·224	0·357	0·173
Having clear information over a period of time rather than all in one go	0·650	0·228	−0·138	$-2{\cdot}604 \times 10^{-2}$	−0·342	0·275	−0·174
Changing my outlook trivia any more (e.g. not worrying about)	0·681	0·407	$-4{\cdot}450 \times 10^{-3}$	$-8{\cdot}806 \times 10^{-2}$	0·123	0·150	−0·120
Rebuilding self-confidence	0·745	0·118	−0·210	$-4{\cdot}448 \times 10^{-2}$	−0·343	0·232	0·157
Dealing with the question why me	0·722	0·435	0·329	0·164	$-2{\cdot}238 \times 10^{-2}$	0·192	−0·177
Coping with feelings of anger	0·717	0·212	0·145	$-1{\cdot}454 \times 10^{-2}$	−0·135	0·221	0·190
Facing my anxiety about surgery	0·753	0·490	0·141	$-5{\cdot}055 \times 10^{-2}$	$-1{\cdot}797 \times 10^{-2}$	$-4{\cdot}111 \times 10^{-2}$	0·117
Facing my anxiety about cancer	0·693	0·339	0·145	−0·230	$-8{\cdot}958 \times 10^{-2}$	$-6{\cdot}306 \times 10^{-2}$	0·160
Wanting things to move fast prior to and following diagnosis	0·740	$-2{\cdot}796 \times 10^{-2}$	$-3{\cdot}317 \times 10^{-2}$	0·442	−0·410	−0·149	$-4{\cdot}863 \times 10^{-4}$
Getting on with my life again	0·751	0·373	−0·113	0·197	−0·501	$-1{\cdot}940 \times 10^{-2}$	$-2{\cdot}900 \times 10^{-2}$
Having prompt information about my treatment	0·089	0·757	0·209	0·197	−0·276	$-1{\cdot}135 \times 10^{-2}$	$-1{\cdot}180 \times 10^{-2}$
Being able to cope with side-effects of different treatments (e.g. tiredness)	0·246	0·650	−0·219	$-4{\cdot}882 \times 10^{-2}$	−0·153	−0·148	$-6{\cdot}078 \times 10^{-2}$
Having reassurance about the necessity for long-term treatments (e.g. tamoxifen)	$-1{\cdot}240 \times 10^{-3}$	0·705	−0·212	$-3{\cdot}364 \times 10^{-2}$	$-9{\cdot}491 \times 10^{-2}$	−0·305	−0·160
Being able to cope with anxiety associated with treatments, especially surgery	0·240	0·783	$-2{\cdot}369 \times 10^{-2}$	0·245	0·186	−0·304	$-6{\cdot}706 \times 10^{-2}$
Being provided with information about what treatment would be like (without needing to ask)	−0·156	0·612	$-9{\cdot}556 \times 10^{-2}$	0·346	0·107	$-1{\cdot}293 \times 10^{-2}$	0·287
Being able to make an informed choice about the types of treatment on offer	$-5{\cdot}418 \times 10^{-2}$	0·714	0·222	0·434	0·360	$-5{\cdot}808 \times 10^{-2}$	−0·164
Having prompt treatment	0·355	0·731	$-5{\cdot}943 \times 10^{-2}$	$-9{\cdot}826 \times 10^{-2}$	$-1{\cdot}642 \times 10^{-2}$	0·108	$-4{\cdot}869 \times 10^{-3}$
Being able to cope with after-effects of surgery	0·106	0·687	−0·370	0·207	$-1{\cdot}920 \times 10^{-2}$	−0·183	−0·152
Coping with physical problems following surgery (e.g. impairment of movement)	$-5{\cdot}365 \times 10^{-2}$	0·655	−0·341	0·178	$-3{\cdot}623 \times 10^{-3}$	−0·237	0·126

Table 2 (Continued)

Items and factors of the scale	Factor 1 Diagnosis	Factor 2 Treatment	Factor 3 Support	Factor 4 Femininity and body image	Factor 5 Family and friends	Factor 6 Information	Factor 7 After care
Having regular follow-up appointments to talk things over with a breast care nurse, especially in the early stages	$-4{\cdot}603 \times 10^{-2}$	0·624	−0·339	0·231	0·096	$-8{\cdot}842 \times 10^{-2}$	$-7{\cdot}402 \times 10^{-2}$
Having peace and quiet during my hospital stay	−0·166	0·597	$3{\cdot}246 \times 10^{-2}$	0·373	0·117	−0·105	0·315
Being treated normally, given help but not treated as an invalid	$-2{\cdot}083 \times 10^{-2}$	0·704	0·252	0·424	0·208	−0·220	0·333
Being treated as an individual	−0·205	0·658	$-2{\cdot}909 \times 10^{-2}$	0·181	−0·102	$-3{\cdot}968 \times 10^{-2}$	0·151
Having the attention of a particular nurse in the ward environment	−0·193	0·802	−0·243	$-6{\cdot}368 \times 10^{-2}$	0·191	0·375	0·356
Having the attention of a particular breast care nurse	−0·170	0·825	−0·438	−0·113	0·294	0·144	$-6{\cdot}697 \times 10^{-2}$
Sharing experiences with other women who have been through the experience	−0·145	−0·151	0·679	$-4{\cdot}574 \times 10^{-2}$	0·346	0·124	−0·227
Maintaining independence	−0·117	−0·139	0·681	−0·211	$-7{\cdot}886 \times 10^{-2}$	−0·169	$-3{\cdot}461 \times 10^{-2}$
Having professional help with family problems and domestic upheaval	−0·224	$-3{\cdot}498 \times 10^{-2}$	0·631	$-8{\cdot}377 \times 10^{-2}$	0·201	−0·261	−0·226
Clear communication with professionals	−0·333	−0·249	0·753	$-2{\cdot}475 \times 10^{-3}$	0·224	0·102	−0·111
Being able to express feelings even if seeming trivial	−0·131	$-8{\cdot}810 \times 10^{-2}$	0·705	$-2{\cdot}721 \times 10^{-2}$	0·342	0·130	−0·129
Having somewhere quiet and appropriate to go when receiving bad news	$-3{\cdot}344 \times 10^{-2}$	0·273	0·756	−0·118	0·235	$-2{\cdot}098 \times 10^{-2}$	$-1{\cdot}857 \times 10^{-2}$
Having reassurance that when any kind of symptom appears it is not necessarily cancer	0·241	0·261	0·669	−0·262	$-7{\cdot}073 \times 10^{-2}$	0·157	0·194
Husband/partner's acceptance of my changed appearance	$-2{\cdot}380 \times 10^{-2}$	0·155	−0·243	0·656	0·102	−0·170	0·081
Having time to adapt myself to my changed appearance	0·107	$-8{\cdot}540 \times 10^{-2}$	−0·144	0·690	0·279	$-5{\cdot}231 \times 10^{-2}$	0·344
Having physical contact with husband or partner for reassurance (not necessarily sexual)	0·364	0·309	−0·391	0·801	0·307	−0·325	0·167
Having information about the option of reconstruction	0·073	$-5{\cdot}125 \times 10^{-2}$	$-7{\cdot}999 \times 10^{-2}$	0·707	$-4{\cdot}177 \times 10^{-2}$	$-8{\cdot}476 \times 10^{-2}$	−0·518
Taking stock of changes in sexual feelings following surgery	0·234	$-8{\cdot}298 \times 10^{-2}$	−0·257	0·776	$-9{\cdot}630 \times 10^{-2}$	−0·206	0·103
Having information about availability and variety of suitable underwear following surgery	0·162	0·394	$-4{\cdot}593 \times 10^{-2}$	0·631	$-3{\cdot}651 \times 10^{-3}$	$1{\cdot}611 \times 10^{-2}$	$-2{\cdot}952 \times 10^{-2}$

Table 2 (Continued)

Items and factors of the scale	Factor 1 Diagnosis	Factor 2 Treatment	Factor 3 Support	Factor 4 Femininity and body image	Factor 5 Family and friends	Factor 6 Information	Factor 7 After care
Having support on the domestic front with practical things	$-3{\cdot}630 \times 10^{-2}$	−0·272	−0·131	0·163	0·706	$-8{\cdot}469 \times 10^{-2}$	$-4{\cdot}926 \times 10^{-2}$
Having reassurance, acceptance and emotional support from husband or partner	$-8{\cdot}113 \times 10^{-2}$	0·192	−0·518	0·095	0·725	183	0·120
Having open and honest communication	−0·287	0·131	−0·289	−0·247	0·770	−0·108	0·109
Having my family around me	−0·476	0·219	$-6{\cdot}592 \times 10^{-2}$	−0·250	0·807	−0·178	−0·141
Having support of husband/partner and other relatives	−0·463	0·329	−0·196	−0·208	0·791	$-9{\cdot}868 \times 10^{-2}$	−0·133
Having knowledge about hereditary implications	−0·278	0·248	$-4{\cdot}832 \times 10^{-3}$	−0·210	0·426	0·694	−0·305
Accuracy and consistency	−0·147	−0·448	$-5{\cdot}295 \times 10^{-2}$	$-9{\cdot}669 \times 10^{-2}$	$9{\cdot}324 \times 10^{-2}$	0·748	−0·272
Having practical advice about things like contraception, sunbathing, diet and alcohol	$6{\cdot}628 \times 10^{-2}$	0·461	0·121	0·198	0·361	0·668	$-2{\cdot}839 \times 10^{-2}$
Being able to find out about support groups	−0·333	0·238	−0·310	0·239	0·210	0·660	−0·110
Being able to find out about comple mentary therapy	−0·312	0·174	$-6{\cdot}846 \times 10^{-3}$	0·332	$-9{\cdot}377 \times 10^{-2}$	0·707	$-8{\cdot}632 \times 10^{-2}$
Having a continuing point of contact with a member of the hospital team	−0·299	−0·118	$-2{\cdot}513 \times 10^{-2}$	$-2{\cdot}188 \times 10^{-2}$	0·278	0·172	0·753
Living for today	$4{\cdot}712 \times 10^{-3}$	0·265	$-5{\cdot}690 \times 10^{-2}$	−0·234	$-2{\cdot}153 \times 10^{-2}$	$-9{\cdot}123 \times 10^{-2}$	0·751
Having a positive outlook where possible	$-4{\cdot}284 \times 10^{-2}$	$2{\cdot}799 \times 10^{-2}$	−0·139	−0·180	$-2{\cdot}965 \times 10^{-2}$	0·107	0·765
Alpha	0·84	0·84	0·77	0·77	0·77	0·71	0·73
Variance (%)	7·0	7·0	4·6	4·3	4·0	3·5	3·4

factor explained 25·5% of the variance. Item loadings of the second factor with an alpha of 0·84 were found to be related to treatment subscale. This factor explained 7·0% of the total variance. The third factor with an alpha of 0·77 exclusively referred to items which deal with support subscale. The explained variance of this factor was 4·6%. The fourth factor with an alpha of 0·77 was femininity and body image subscale and this factor explained 4·3% of the total variance. The fifth factor was family and friends subscale. Internal consistency reliability of this factor was 0·77 and it explained 4·0% of the total variance. The sixth factor with an alpha of 0·71 was information subscale. This factor explained 3·5% of the total variance. The seventh factor was after care subscale. Internal consistency reliability of this factor was 0·73 and it explained 3·4% of the total variance. All of factor loadings were above 0·40 and factor loading of the items ranged 0·61–0·82 in the current study. Table 2 shows principal components analysis followed by varimax rotation factor loadings of items of the scale ($n = 143$).

Discussion

The results of this study showed that the psychometric characteristics of the Turkish version of the SASNS were promising. The panel review regarding the content of Turkish version of the SASNS indicated that there was no need to modify its translation and content. The Cronbach's alpha, range of individual inter-item correlations and the homogeneity of the SASNS seemed to be sufficient. Internal consistency and inter-item correlations had adequate criteria (Erefe 2002, Polit & Beck 2004). Translated instruments might have lower reliability scores, altered distribution of scores and question of validity. In addition, cultural differences in response patterns had statistical methodological implications (Bontempo 1993). With varimax rotation the factor analysis indicated that, with regard to the content, seven factors could be discerned: diagnosis, treatment, support, femininity and body image, family and friends, information and aftercare dimension. In the original scale (Lindop & Cannon 2001), seven factors were found to have same content: diagnosis, treatment, support, femininity and body image, family and friends, information and aftercare in the original scale. The seven factors all together explained 52·1% of the total variance. Cronbach's α was 0·93 for the total scale. Lindop and Cannon (2001) did not report internal consistency reliability for the scale. In this study, internal consistency and explained total variance had adequate criteria (Erefe 2002, Polit & Beck 2004).

If the items in the Turkish scale were compared with the original scale, the scale was found to be similar to the original scale. This result also questions the procedure of the KMO that was 0·80 in this study. This finding indicated that the sample was large enough for performing a satisfactory factor analysis and that further validation (factor solution) could proceed with a similar sample size in the current study. Sample size in this study was adequate for factor analysis.

Factor analysis yielded that all of factor loadings were above 0·40 and factor loading of the items in the scale ranged 0·61–0·82. Factor loadings had not been reported for original scale (Lindop & Cannon 2001). Acceptable minimum point was 0·30 for factor loading (Burns & Grove 1993). In this study, all items met these criteria and factor loadings were high. Therefore, construct validity of the scale was obtained.

Conclusion

This study confirmed the reliability and validity of the scale in this sample of Turkish women. The development of valid scales is a complex procedure. The SASNS is very important because it provides standardized data regarding self-assessed support needs of women with breast cancer. To ensure the quality of adapted instruments, international norms should be followed. The application of a methodology accepted by the scientific literature makes available the comparison of the data obtained in different languages. In Turkey, the results of this study have to be taken into consideration in the related areas of this issue.

The Turkish version of the SASNS will enable identification of self-management activities of patients with breast cancer. Assessment of the SASNS of patients with breast cancer should be an essential part of nursing practice. Further study and development may lead to the identification of needs that would improve the Turkish version of the SASNS. I recommend that this scale should be further evaluated with a large and enough sample size at different regions of Turkey and diverse populations of world. Once a valid and reliable scale is ready to use, it can be used to measure outcomes in an intervention study. It has to be tested in different cultures. The existing Turkish scale can be used for further validation and also the usage of the scale will be available at outcome research.

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Contributions

Study design: BE; data analysis: BE; manuscript preparation: BE.

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