

## The Turkish version of the Newcastle Satisfaction with Nursing Care Scale used on medical and surgical patients

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**Aim and objectives.** The aim of this study is to test the validity and reliability of the modified version of the Newcastle Satisfaction with Nursing Care Scale on medical and surgical patients.

**Background.** Measuring patient satisfaction with nursing care is important in evaluating the extent to which patients' needs are met and for determining the appropriate nursing care. In recent years there has been increasing interest in patient satisfaction with nursing care in Turkey, but there are no validated scales available to measure this.

**Design.** It is an evaluative study.

**Methods.** The data were collected using the Newcastle Satisfaction with Nursing Care Scale and by a demographic information questionnaire. After translinguistic study, the content validity of the scale was confirmed and tested on 200 patients who were recruited at Istanbul University Hospital on the day of discharge. Internal consistency of the scale was tested by Cronbach's alpha. Demographic variables related to the satisfaction scores were analysed using the Spearman correlation, the Mann–Whitney *U*- and Kruskal–Wallis tests.

**Results.** The Turkish version of the Satisfaction with Nursing Care Scale, with a total of 19 items, was determined to be suitable for measuring patient satisfaction with nursing care. Patients were generally satisfied with the nursing care received. The items with the most positive rating were respectively: the amount of freedom they were given on the ward, the amount of privacy they were given by nurses and how quickly nurses responded to their requests. The study found that female patients, older patients and those who had health insurance were the most satisfied.

**Conclusion.** The Turkish version of the Satisfaction with Nursing Care Scale showed an adequate reliability and validity for its use on adult Turkish patients.

**Relevance to clinical practice.** Nurses can use the Satisfaction with Nursing Care Scale of Newcastle Satisfaction with Nursing Scales in evaluating and improving the nursing care in clinical practice.

**Key words:** Newcastle Satisfaction with Nursing Scales, nurses, nursing, reliability, Satisfaction with Nursing Care Scale, validity

## Introduction

Interest in measuring satisfaction with health care has grown considerably in recent years. Patient satisfaction has been used as an indicator to measure the quality of health care provided by nurses, especially in attempts to demonstrate the benefits of changes in nursing practice (Walsh & Walsh 1999, Thorsteinsson 2002, Alasad & Ahmad 2003). Dictionary definitions attribute the term 'satisfaction' to the Latin root *satis*, meaning 'enough'. Something that satisfies will adequately fulfil expectations, needs or desires and, by giving what is required, leaves no room for complaint (Crow *et al.* 2002). In the field of nursing, the most widely accepted definition is that of Risser (1975), according to which patient satisfaction with nursing care is the degree of convergence between the expectations patients have of deal care and their perception of the care they really get (Merkouris *et al.* 1999).

Patient satisfaction has a vital role in the effectiveness of care, in increasing patient compliance with medication, advice and in making patients more likely to return for their follow-up appointments (Bond & Thomas 1992, Yilmaz 2001). Getting information through evaluation of patients' satisfaction is important in correcting interventions which will not only directly improve health care and the patient's condition but, at the same time, will increase the patient satisfaction, thus leading to a positive response to treatment. In addition, evaluation of care is important in rewarding and reinforcing staff morale. Evaluation of patient satisfaction gives the staff information about quality of care, success or failure of the health care organization (Merkouris *et al.* 1999).

There are seven main dimensions that have been addressed in the literature as a crucial in the measurement of patients' satisfaction. These dimensions are; (i) respect for patients' values, preference and expressed needs, (ii) coordination, integration and information flow, (iii) information and education, (iv) physical comfort, (v) emotional support and alleviation of fear and anxiety, (vi) involvement of family and friends and (vii) transition and continuity (Alasad & Ahmad 2003). The most commonly studied dimensions of satisfaction were humanness, informativeness, overall quality and competence (Staniszewska & Ahmed 1999).

Patient satisfaction is affected by patients' characteristics – demographics, social and economic status, illness, current and previous experiences of hospital service – nursing staff, environmental and hospital related factors such as food, cleanness etc. (Bond & Thomas 1992, Staniszewska & Ahmed 1998, Merkouris *et al.* 1999, Yilmaz 2001).

Measuring patient satisfaction with nursing care is important in evaluating and meeting patients' needs and for determining the proper nursing interventions. Patient satisfaction with nursing services gains even more importance because nursing staff comprises the majority of the health staff (McDonnell & Nash 1990). In Turkey, health organizations have seen an increase towards improving health services to increase patient satisfaction. In the past 10 years, Turkish nursing has increased the standards of nursing education and has also been trying to raise the professional standards of care. Therefore, the nurses are making an effort to improve nursing care and they are in need of easily administered, understood and validated and reliable tools for measuring patient satisfaction.

## Study aim

To test the validity, reliability and applicability of the Satisfaction with Nursing Care Scale (SNCS) of the Newcastle Satisfaction with Nursing Scales (NSNS) in medical and surgical wards to present a tool for evaluation of Turkish patient satisfaction with nursing care.

## Methods

### Sample

In this evaluative study, the convenience sample of 200 patients was recruited at Istanbul University Hospital on the day of discharge from October 2003 to March 2004. The 200 participants met the criteria for an adequate sample size for a validity and reliability analyses (at least 10 subjects per items). Of 223 eligible patients, 13 patients did not agree to participate and 10 patients were non-respondents. The participants eligible for recruitment were:

- patients aged 18 years or older,
- discharged from the medical and surgical wards,
- spent two nights or more in the ward,
- able to read and understand Turkish,
- not too confused or ill to complete the questionnaires.

### Ethical considerations

Permission to use the SNCS in this study was obtained from the developers before starting. The study was approved by the hospital administration. Patients were invited to participate in the study and were informed before

verbal consent was obtained. The purpose of the study and the time it takes to complete the questionnaire were stated to respondents in a covering letter. The researchers guaranteed patients that their identities and answers would be kept confidential. Completed questionnaires were stored securely.

## Measures

### *Newcastle Satisfaction with Nursing Scales*

The NSNS were developed by Thomas *et al.* (1996a,b) by measuring patients' experiences of and satisfaction with nursing, based on a their perspective. A structured, self-completion questionnaire was developed by asking patients, through individual and focus group interviews, what they perceived was good or bad quality nursing. Major themes emerging related to the availability and attentiveness of nurses, the degree of individual treatment afforded to patients, the provision of reassurance and information and the openness of informality of nurses. Other themes were mentioned less frequently; these were nurses' professionalism and knowledgeability, ward organization and the ward environment. The NSNS were developed from these concepts. The scales are incorporated into a self-completion questionnaire which comprises three sections: (i) experiences of Nursing Care Scale, (ii) Satisfaction with Nursing Care Scale and (iii) demographic information section (McColl *et al.* 1996, Thomas *et al.* 1996a,b).

*Experiences of Nursing Care Scale:* a series of 26 statements on aspects of nursing are presented and respondents are asked to indicate how true each is of their own experience, using a seven-point Likert scale (1 = disagree completely, 2 = disagree a lot, 3 = disagree a little, 4 = neither agree nor disagree, 5 = agree a little, 6 = agree a lot and 7 = agree completely). To avoid affirmation bias, a mixture of positively and negatively worded statements (15 and 11 items, respectively) are included. Responses across all items are summed and transformed to yield an overall 'experience score', with a potential range of 0–100, where 100 represents the best possible experience.

*Satisfaction with Nursing Care Scale* consists of 19 items. All items are scored on a five-point Likert scale (1 = not at all satisfied, 2 = barely satisfied, 3 = quite satisfied, 4 = very satisfied and 5 = completely satisfied). Total score was summed and transformed to yield an overall 'satisfaction score' of 0–100, where 100 denotes complete satisfaction/highest level of satisfaction with all aspects of nursing care (McColl *et al.* 1996, Thomas *et al.* 1996a). In the study of Thomas *et al.* (1996b) Cronbach's alpha was 0.96 for the SNCS. Correlations between single

items and total ranged from 0.53 to 0.82 (Thomas *et al.* 1996b).

*Demographic information section*, the final section, elicits information about the patient and details of the hospital stay. This section also includes a one-item scale (seven point response scale) about the patients' overall satisfaction with their recent stay in the hospital.

## Data collection

For data collection we used a demographic information questionnaire and the SNCS of the NSNS. The data were collected according to the directions of the NSNS users' manual. The questionnaire and the scale were given to 200 patients on their day of discharge. They received them in well in advance of their discharge to allow for completion prior to departure.

Using the *demographic questionnaire*, patients provided their age, gender, marital status, education level, health insurance, perceived income level and their overall satisfaction with their recent stay in the hospital ward. Income level was measured by the patients' own perception of their monthly income. It was coded as bad = 1, middle = 2, good = 3. The overall satisfaction with recent hospital stay was measured by one-item scale (seven point response scale). It was coded as dreadful = 1, very poor = 2, poor = 3, fair = 4, good = 5, very good = 6 and excellent = 7. To make findings more easily understandable, the seven-point response scale is also divided into negative (dreadful, very poor and poor), neutral (fair) and positive (good, very good and excellent) responses.

For the *SNCS section*, participants provided their satisfaction rating for various aspects of nursing care by selecting only one number that best describes their opinion in each item of the SNCS, with a total of 19 items. Patients were encouraged to complete the questionnaire unaided and in private. Friends, relatives and other patients were discouraged politely from contributing.

## Analysis

The data were analysed using the SPSS for Windows (version 11.5 SPSS, Istanbul University, Turkey). Internal consistency of the scale was tested by Cronbach's alpha. Descriptive statistics (including means, standard deviations, frequencies and percentages) were calculated for demographic variables. Differences were tested with the Spearman correlation test, the Mann-Whitney *U*- and Kruskal-Wallis tests for continuous variables not normally distributed. Analysis of variance was used when three or more groups of scores were encountered.

## Results

### Validity

The SNCS was translated using the back translation technique. Two bilingual linguistic experts translated the original structure of SNCS independently from English into Turkish. The experts met and reviewed the Turkish translation together for inconsistencies with the original English form and minor revisions were suggested in some areas. The Turkish version of SNCS was back translated into English by another linguistic expert. The back translated and original forms of the SNCS were compared and found to be highly similar in meaning. After reviewing both translations, the most appropriate terms were selected. Later, content validity was ascertained by an expert panel whose members were asked to review the 19 items of SNCS. The expert group consisted of 10 nursing faculty academics specializing in nursing administration, community nursing, medical and surgical nursing. They were asked to review and rate the relevance of each item using a four-point rating scale ranging from 1 (not at all important) to 4 (very important). The content validity index (CVI) of each component was calculated based on the experts' ratings. The CVI score was computed by summing the percentage agreement scores of all

items that were given by the experts a rating of '3' or '4'. The criterion for retaining an item was at least 80% agreement among the experts at the agree or strongly agree level of relevance to the construct (Pierce 1995). CVI of the Turkish version of the SNCS is 98%. Finally, the SNCS was revised by using the results of the content validity. The final version of the Satisfaction Scale was pretested on 30 patients and was seen to be efficient.

### Reliability

We tested the internal consistency of the Turkish version of the SNCS, by using Cronbach's alpha and correlations. Alpha Coefficients for the items range from 0.43 to 0.89. The Cronbach's alpha of the satisfaction scale is 0.96 (Table 1).

### Sample characteristics

The sample group consisted of patients who were treated in medical and surgical wards. The mean age of participants was  $54 \pm 16$  (with a range from 18 to 81) years. Half of the participants (52.5%) were women and most of them were married (81%). One hundred and forty-four patients (72%) had graduated from primary school, 17% ( $n = 34$ ) from high school and 11% ( $n = 22$ ) from university

**Table 1** Newcastle Satisfaction with Nursing Scale Item-total correlations and Cronbach alpha ( $n = 200$ )

	Toplam	
	$r_s$	P-value
1 The amount of time spent with you	0.82	0.0001
2 How capable nurses were at their job	0.81	0.0001
3 There always being a nurse around if you needed one	0.72	0.0001
4 The amount nurses knew about your care	0.82	0.0001
5 How quickly nurses came when you called for them	0.77	0.0001
6 The way the nurses made you feel at home	0.80	0.0001
7 The amount of information nurses gave to you about your condition and treatment	0.67	0.0001
8 How often nurses checked to see if you were okay	0.76	0.0001
9 Nurses' helpfulness	0.84	0.0001
10 The way nurses explained things to you	0.77	0.0001
11 How nurses helped put your relatives' or friends' minds at rest	0.75	0.0001
12 Nurses' manner in going about their work	0.84	0.0001
13 The type of information nurses gave to you about your condition and treatment	0.78	0.0001
14 Nurses' treatment of you as an individual	0.83	0.0001
15 How nurses listened to your worries and concerns	0.78	0.0001
16 The amount of freedom you were given on the ward	0.43	0.0001
17 How willing nurses were to respond to your requests	0.89	0.0001
18 The amount of privacy nurses gave you	0.71	0.0001
19 Nurses' awareness of your needs	0.76	0.0001
Cronbach $\alpha$	0.96	

Certain characteristics	<i>n</i>	%	Satisfaction Scores			Statistical analysis
			Mean	±SD	Med	
Gender						
Males	95	47.5	48.75	24.58	48.68	$z_{\text{MWU}} = -3.79$ $P = 0.0001$
Females	105	52.5	61.20	19.20	61.84	
Age						
< 50	121	60.5	50.20	21.66	50.00	$z_{\text{MWU}} = -0.85$ $P = 0.0001$
> 50	79	39.5	63.09	22.24	65.79	
Perceived income level						
Low	22	11	66.51	24.99	71.05 <sub>(2)</sub>	$\chi^2_{\text{KW}} = 6.81$ $P = 0.03$
Moderate	132	66	53.27	21.90	52.63	
High	46	23	55.72	22.89	61.84	
Education level						
Primary level (1–6 years)	144	72	55.02	22.59	53.95	$\chi^2_{\text{KW}} = 0.19$ $P = 0.91$
Secondary (7–12 years)	34	17	56.42	24.27	59.21	
Tertiary (13+ years)	22	11	55.32	22.25	60.53	
Marital status						
Married	162	81	56.40	21.83	56.58	$z_{\text{MWU}} = -1.55$ $P = 0.12$
Unmarried	38	19	50.55	26.02	50.00	
Health insurance						
Insured	185	92.5	54.37	22.46	53.95	$z_{\text{MWU}} = -1.93$ $P = 0.05$
Uninsured	15	7.5	66.67	23.80	71.05	
Employment status						
Employed	45	77.5	52.75	20.83	52.63	$z_{\text{MWU}} = -0.90$ $P = 0.36$
Unemployed	155	22.5	56.02	23.27	56.58	
Ward						
Medical	110	55	62.21	22.32	64.47	$z_{\text{MWU}} = -4.83$ $P = 0.0001$
Surgical	90	45	46.83	20.34	44.74	

Table 2 Patients characteristics associated with satisfaction

(Table 2). The perceived income level of most participants (66%) was rated as a moderate level. Fifteen patients (7.5%) did not have health insurance. Most of the patients (77.5%) stated that their current illness did not prevent them from working. The mean number of hospitalizations was three (SD  $\pm$  2). The mean duration of stay in hospital was 8.74 nights (SD  $\pm$  7.60). Over half of the patients (55%) were being treated for medical problems, the rest for surgical problems.

### Patient satisfaction

In this study the level of patients' satisfaction with nursing care and overall satisfaction with their recent hospital stay were investigated. Using the SNCS, 140 (70%) patients rated 'positively' their satisfaction with nursing care. The mean of patient satisfaction score was  $55.29 \pm 22.79$  [median value 55.26 points (R: 0–100 points)]. The items with the most positive rating for the 200 patients were, respectively, 'the amount of freedom they were given on the ward' (74.5%), 'the amount of privacy they were given by nurses' (67%), 'how quickly nurses came when they called for them' (58.5%), 'nurses' treatment of them as an individual'

(53.5%) and 'nurses' helpfulness' (53%). Only two items had a 'not at all satisfied' rating; 'how nurses helped put their relatives' or friends' minds at rest' (26%) and 'nurses awareness of their needs' (25%) (Fig. 1).

The patients perceived overall satisfaction level with their recent stay in the hospital ward was found to be 'good' (good = 5 point, SD  $\pm$  1.23) (med. 5, minimum 1–maximum 7). Most of the patients (74.5%) rated their overall satisfaction 'positive'. A positive relationship was found between satisfaction with nursing care and overall satisfaction with hospital ( $r_s = 0.56$ ;  $P = 0.0001$ ).

The relationship between patients' characteristics and the level of patient satisfaction was shown in Table 2. Female patients were more satisfied than males ( $z_{\text{MWU}} = -3.79$ ;  $P = 0.0001$ ). The older patients ( $r = 0.32$ ;  $P = 0.0001$ ) and patients with health insurance were more satisfied ( $z_{\text{MWU}} = -1.93$ ,  $P = 0.05$ ). No statistical relationship was found between satisfaction with nursing care and education level ( $\chi^2_{\text{KW}} = 0.19$ ;  $P = 0.91$ ), income level ( $\chi^2_{\text{KW}} = 6.81$ ;  $P = 0.03$ ) marital status ( $z_{\text{MWU}} = -1.55$ ;  $P = 0.12$ ) or employment status ( $z_{\text{MWU}} = -0.90$ ;  $P = 0.36$ ). No statistical relationship was established between satisfaction with nursing care and the numbers of hospitalization or the nights

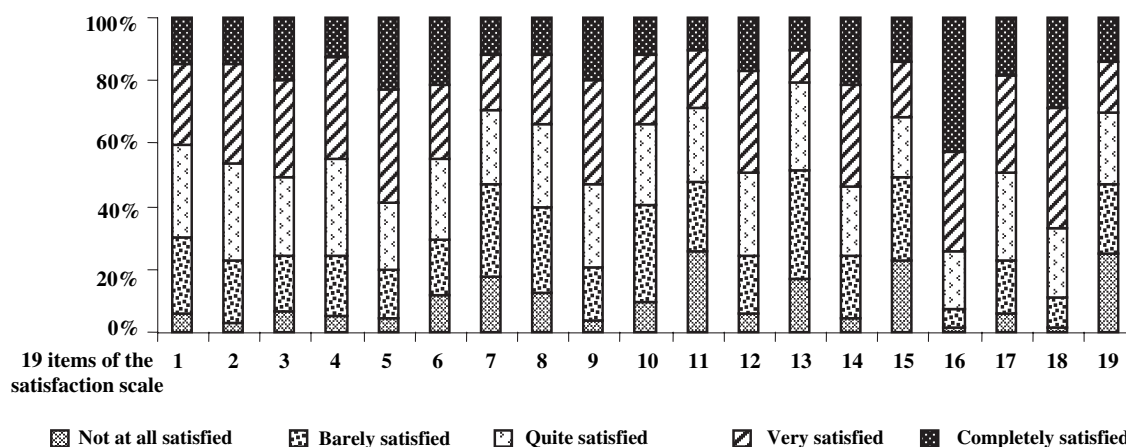


Figure 1 The level of patient satisfaction with nursing care based on Satisfaction with Nursing Care Scale.

spent in a ward (respectively  $r_s = 0.10$ ,  $P = 0.16$ ;  $r_s = -0.03$ ,  $P = 0.65$ ). Patients treated in a medical ward reported higher satisfaction than those treated in a surgical ward ( $z_{MWU} = -4.83$ ,  $P = 0.0001$ ).

## Discussion

After reviewing the existing studies in Turkey regarding patients' satisfaction with nursing we reached the conclusion that there was no valid or reliable measure of patient satisfaction with nursing developed from patients' perspectives. Our aim was to test the reliability and validity of the SNCS and to demonstrate its applicability for Turkish nurses. CVI of the Turkish version of the SNCS is 98%, indicating an acceptable level of content validity. The reliability of a scale refers to the extent to which a scale is internally consistent. Reliability was assessed by using item-total scale correlations and Cronbach alpha coefficients. The desired criteria of item-total correlation was greater than 0.30 and alpha levels of 0.80 or greater were considered desirable, with 0.70 or above viewed as adequate (Nunnally 1978). In this study, correlations between single items range from 0.43 to 0.89 and the internal consistency of the SNCS assessed by Cronbach's alpha is 0.96. The means of the SNCS for the Turkish sample were consistent with previously reported English and Jordan samples. In the previous studies, items correlations ranged from 0.53 to 0.82, Cronbach's alpha was 0.96 (Thomas *et al.* 1996b) and 0.93 (Alasad & Ahmad 2003). Consistent with Alasad and Ahmad's findings (2003), there was a relationship between perceived overall satisfaction with recent hospital stay and satisfaction with the nursing care. The higher the satisfaction with nursing care was, the higher the overall satisfaction with hospital. This result supported the internal consistency of the SNCS.

The factors affecting satisfaction might be grouped as individual factors which includes expectations, health status, socio-demographic, etc. or health service delivery factors such as organization and structure, setting, relationships etc. (Crow *et al.* 2002). The other factors shown to influence patients' satisfaction with the nursing care have included characteristics of nurses, communication between nurses and patients (Thorsteinsson 2002). In this study, besides a construct validity and reliability of the SNCS, we examined the patient satisfaction with the nursing care and its relation to demographic and socio-economic variables.

Crow *et al.* (2002) identified 61 studies that examined the relationship between patients' socio-economic and demographic characteristics and their reported satisfaction with health care. These studies ranged in size from 52 respondents to over 50 000. No firm conclusions might be drawn about the relationship between reported satisfaction and gender. Different results were found among 39 studies that investigated this relationship (Crow *et al.* 2002). We and Alasad and Ahmad (2003) found that females were more satisfied with care than males, whereas Sezgin and Argon (1998) reported no relationship between gender and satisfaction.

Different results were also found with age and education in relation to the level of satisfaction with care. Crow *et al.* (2002) investigated the findings of 58 studies. In 41 of them it was determined that older respondents were significantly more satisfied. The effect of level of education on satisfaction was considered by 31 investigators. Education was not found to have a significant influence on satisfaction in 15 (48.3%) studies. Higher level of education was associated with significantly less satisfaction in 11 (35.4%) studies and significantly more satisfaction in five (16.2%). In some other studies (Thomas *et al.* 1996b, Selcuki & Karadeniz 2001,

Alasad & Ahmad 2003) it was reported that there was no relationship between education and satisfaction. In our study and in the study of Sezgin and Argon (1998), performed on Turkish patients, a significant relationship was found between age and satisfaction, however no statistical relationship was found between satisfaction with nursing care and education level.

We assumed that health insurance might effect satisfaction of the patients so the health insurance variable was taken into consideration. It was found that the assumption was correct. In the current study we found that people with health insurance were highly satisfied with the care they received, but the employment status and income level did not affect the level of satisfaction itself. Whereas, Crow *et al.* (2002) reported in five studies, summarizing 14 studies, that higher income levels were associated with greater satisfaction with interpersonal communication skills and that people with lower income levels were observed to report more problems with in-hospital stays.

As there are various results, it is not possible to draw a conclusion about relationship of satisfaction and socio-demographic factors that affect satisfaction. Investigators should be aware of the potential significance of background variables such as these on satisfaction outcomes. These results show that satisfaction varies according to the characteristics of patients, culture, expectations, personal and illness factors. Therefore, for nurses to determine the appropriate care, they need to measure these variables in their settings and monitor the patients' satisfaction.

Examining the items with low patients' satisfaction will enable nurses to identify the defects in nursing care and to institute appropriate changes. Items with high patients' satisfaction need to be maintained and enhanced by nurses. In our study, similar findings were found to the other studies relating to the most and least satisfied concepts (Sezgin & Argon 1998, Selcuki & Karadeniz 2001, Alasad & Ahmad 2003). Consistent with the findings of Alasad and Ahmad, we found the items that the patients scored highest were the feeling of privacy, nurses' capability and nurses' helpfulness. The problem area highlighted by this study and other studies (Walsh & Walsh 1999, Alasad & Ahmad 2003) is that of giving patients information. In summary, in order to increase the satisfaction with hospital and nursing care, nurses should focus on improving the least satisfied areas.

### Limitations and recommendations

In this study, we used The SNCS of NSNS. If the Experience of Nursing Care Scale of NSNS had been used, it would have

been possible to determine what kind of experiences would effect the level of satisfaction. Thus, these data would better facilitate the organization of nursing care. The next phase for researchers will be to test the Experience of Nursing Care Scale on Turkish patients and to measure the effects of their experiences on patient satisfaction.

### Conclusion

To organize nursing services better and evaluate the quality of care provided, data relating to the patients' satisfaction with nursing care are required. The version of the SNCS (19-item scale) is suitable for measuring patient satisfaction with nursing care. Our study demonstrated its usefulness in clinical settings by measuring Turkish medical and surgical patients' satisfaction with nursing care. The results emphasize the importance of giving patients information concerning their medical condition, supporting patients' relatives and focusing more closely on patients' needs. Both the Experience and the Satisfaction Scales of the NSNS need to be subjected to further research in larger studies.

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### Contributions

Study design: SE, SA; dataanalysis: SA, SE and manuscript preparation: SA, SE.

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