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CLINICAL ISSUES

Reliability and validity of Turkish version of the Individualised Care Scale

Rengin Acaroglu, Riitta Suhonen, Merdiye Sendir and Hatice Kaya

Aims. To validate an English version of the Individualised Care Scale for use with a Turkish population and evaluate its validity and reliability.

Background. Studies about the evaluation of nursing care from the patients' perspective are becoming more important. No valid and reliable instruments are available in Turkey for evaluating individualised care from the patients' perspective.

Design. Cross-sectional survey design.

Methods. Standard forward-back translation techniques were used to obtain semantic equivalence of the Individualised Care Scale. An expert panel considered the translations and provided content validation. A convenience sample of 120 predischarged patients participated in a survey conducted on neurosurgical and orthopaedic wards in a university hospital in Istanbul 2006. Cronbach's alpha coefficients and item analysis established the internal consistency and factor analysis the construct validity of the Individualised Care Scale.

Results. Cronbach's alpha coefficients were 0·92 for Individualised Care Scale-A and 0·93 for Individualised Care Scale-B. A principal component analysis supported the construct validity by generating a three-factor solution, which accounted for 65% of the variance in the Individualised Care Scale-A and 62% in the Individualised Care Scale-B. Pearson's correlation coefficients in this data were at least 0·84 between the sub-scales and the total domain Individualised Care Scale-A or Individualised Care Scale-B.

Conclusion. The Turkish version of the Individualised Care Scale is a valid and reliable instrument for measuring patients' evaluations of individualised care. The results of this study provide cross-cultural evidence for the usefulness of the Individualised Care Scale.

Relevance to clinical practice. The information obtained by the Individualised Care Scale will help nurses to identify areas where developmental work could be undertaken to provide individualised care.

Key words: individualisation, Individualised Care Scale, instrument development, nursing care, reliability, validity

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Introduction

Individualised care and the uniqueness of people is a foundation principle of nursing philosophy and ethics (Thompson *et al.* 2006) and requires nurses to take account of this in the delivery of care (Suhonen *et al.* 2002, Acaroglu 2004, ICN 2006). This is supported by the statement, 'patients want to be treated as unique individuals, rather than viewed as a diagnosis or room number' (Schmidt 2003, p. 396). Individualisation, as demonstrated by the interest shown in patient's feelings, preferences and requests in their care, represents the degree of personalisation used

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when delivering nursing care (Radwin & Alster 2002, Suhonen *et al.* 2005). The concept of individualised care demands the adaptation of nursing care interventions to every individual patient's beliefs, values, feelings, thoughts, preferences, experiences, needs and perceptions (Radwin & Alster 2002, Suhonen *et al.* 2005, Lau-Walker 2006). Individualised care maintains a person's individuality and autonomy when care needs are determined (Suhonen *et al.* 2002).

To ensure individualised care is delivered, nurses, first, need to be informed about a patient as a unique individual and, second, they need to tailor the nursing interventions to the patient's needs, special requests and abilities (Radwin & Alster 2002). In this context, when individualised care is practiced the nursing care given to patients can vary even though the patients may have the same diagnosis or are in a similar situation. This is because patients' life experiences, individual characteristics and responses to illness and care needs are variable (Lauver *et al.* 2002, Lau-Walker 2006). Considering this, it is almost impossible to determine what an individualised care intervention will entail before commencement as an individualised intervention develops in patient–nurse interaction (Irurita 1999).

Evidence indicates that individualised nursing care has been studied and used in health care context within the Western culture (Suhonen *et al.* 2002, 2008). Less attention has been given to the sensitivity or cultural appropriateness of the concept of individualised care outside Europe and the Northern-America. Therefore, the aim was to find out whether the concept of individualised care is acceptable in Turkish culture. To evaluate the level of individualised care in a clinical setting, a valid and reliable instrument is required.

Background

Routine or task-oriented care governed by standard care protocols and care pathways does not take patients' differences into consideration (Radwin & Alster 2002, Suhonen *et al.* 2002, Jones 2005). Individualised care, which takes the unique characteristics of individuals into account, has many important advantages such as the promotion of personal wellness and health functioning, quality of care and the maintenance of individual functional abilities, autonomy and patient satisfaction (Suhonen *et al.* 2004, 2007).

Further, in Western countries, most patients have negative opinions about individualised care (Schmidt 2003). Some of these are associated with information received from patients' relatives, friends and the mass media. However, it is known that patients' expectations vary more according to their experiences in health care, as patients who have been hospitalised previously interact with those giving health care (Yılmaz 2001). The knowledge acquired as a result of these interactions determines their expectations in future care episodes (Schmidt 2003). This has an effect on whether or not the patients will be satisfied with the care they receive during future hospitalisations (Schmidt 2003, Algıer *et al.* 2005). However, individuals who have not been hospitalised previously are not influenced in this way, and their expectations of individualised care may be limited (Suhonen *et al.* 2000).

There is limited information about the relationship between individualised interventions in patients' care and the patient's perception of individualised care (Suhonen *et al.* 2000, 2002). It is important to determine how patients' perceive their care while they are in the hospital for treatment in these acute areas (e.g. Demir *et al.* 2003). The majority of research conducted in the past to evaluate individualised care has been associated with meeting patients' individual needs and requests and has focused on measuring nurses' knowledge about nursing activities (e.g. van Servellen 1988). However, in the 2000 century, the number of evaluation studies of individualised care from the patients' perspective has increased in some countries (Irurita 1999, Suhonen *et al.* 2000, 2002; Schmidt 2003, Algıer *et al.* 2005).

There have been no previous studies about the individualised care from patients' perspective conducted in Turkey. Therefore, there is need for psychometrically sound, valid and reliable instruments. To evaluate individualised care from the patients' point of view more systematically a standardised instrument, validated to different health care areas and different societies, is required to provide opportunities to compare individualised care between cultures. This study addresses this issue by validating and testing of the Individualised Care Scale (ICS) in a Turkish hospital. The ICS (Suhonen *et al.* 2004, 2005) is originally a Finnish self-administered two-part instrument for the measurement of individualised nursing care from patients' point of view. Individualised care was defined as the patients' views of the support for individuality received from nurses through specific nursing interventions (ICS-A) and patients' perception of individuality in his or her own care (ICS-B).

Aim

The aim of the study was to validate the English version of the ICS for use with a Turkish population and to test the ICS by the evaluation of its psychometric properties. The ultimate goal is to analyse and explore whether the concept of individualised care is culturally appropriate and relevant.

Methods

Design

This study employed a cross-sectional descriptive survey design.

Sample and data collection

The study was conducted with patients from neurosurgery and orthopaedic wards in a university hospital in Istanbul. Patients were included if they were aged 18 years and over, medically discharged from hospital and able to answer the questionnaire independently. Ward nurses, who were informed about the study and the inclusion criteria, informed the researchers of all suitable patients during the data collection period. The patients were informed about the purpose of the study by one of the researchers. In total, 129 patients were asked to complete the ICS during discharge from neurosurgery and orthopaedic wards. Data were collected between December 2005–March 2006.

Individualised Care Scale (ICS)

The ICS, a Likert-type scale instrument, was developed by Suhonen *et al.* (2000) to evaluate patients' views on individualised care in a hospital environment at the point of discharge. The ICS measures the perceptions of hospital patients who are in the process of being discharged about the individualised care they received during their hospital stay. The ICS has been used as an outcome measure of the quality of care (Suhonen *et al.* 2005, 2007), and the current version contains 34 items with two sections ICS-A and ICS-B.

The ICS-A has 17 items and was designed to explore patients' views on how individuality was supported through specific nursing interventions. The second section (ICS-B) also has 17 items and explores how patients perceived individuality in their own care while in hospital. Both sections consist of three sub-scales and use statements to elicit information about (i) individual patient characteristics in the clinical situation caused by the hospitalisation (seven items), (ii) the patient's personal life situation (four items) and (iii) decisional control over care (six items). The response format uses a five-point Likert-type scale (1 = fully disagree, 2 = disagree, 3 = neither disagree nor agree, 4 = agree, 5 = fully agree) (Suhonen *et al.* 2000, 2005). The scores reflect the patient's level of agreement or disagreement with the statement. The higher the score, the more agreement there is with the statement. The original Finnish version of the ICS has been translated and used internationally with trauma and orthopaedic patients in Greece, Sweden, the UK and the USA (Berg *et al.* 2007, Kalafati *et al.* 2007, Suhonen *et al.* 2008).

Translation procedures

To ensure the quality of the Turkish ICS, an internationally accepted forward-back translation technique was used to translate the English version of the ICS to a Turkish equivalent of the original instrument (Erkut *et al.* 1999, Erefe 2002, Burns & Grove 2005, Sendir & Acaroglu 2008). The original questionnaire was translated from English into Turkish independently by three individual researchers (with ability to review the English language literature and having indexed publications in English in international journals) and two English language experts (bilingual and working in English language Education Department, one of them had a degree in nursing) in the Istanbul University. Based on group discussion, the best statement for each item was chosen and combined to form the Turkish version of the questionnaire. The items were discussed to achieve 100% agreement (Beck *et al.* 2003). After that, the Turkish questionnaire was then back-translated into English by another bilingual individual whose first language is Turkish and who was educated in England. This process was reviewed by an English teacher who lives in Turkey, to ensure semantic equivalence. The Turkish-to-English questionnaire back-translation was then compared with the English version of the ICS, discussed to achieve 100% agreement, and no differences in meaning were seen confirming semantic equivalence and confirming the conceptual meaning, clarity and nursing terminology (Erkut *et al.* 1999, Erefe 2002, Polit & Beck 2004).

Data analysis

In the research, the statistical analyses necessary related to the validity and reliability of the instrument were conducted using the Statistical Package for Social Sciences programme (SPSS Version 10.0 for Windows; SPSS Inc., Chicago, IL, USA). Descriptive statistics (frequencies, means, standard deviations SD) were used to describe the demographics of the respondents and the ICS sum variables (support of individuality through nursing interventions ICS-A, clinical situation A, personal life situation A, decisional control over care A, perceptions of individuality in own care ICS-B, clinical situation B, personal life situation B, decision control over Care B).

Content validity

Content validity refers to the extent to which the instrument measures the phenomena it is designed for. The validity of the construct is demonstrated by a thorough examination of all the concepts included in the instrument's definition, limitations and dimensions (Erkut *et al.* 1999, Gözüm & Aksayan 2003, Polit & Beck 2004).

To test content validity, which included item clarity, the translated version was submitted to a panel of 10 specialists who were informed about the scale and the concepts involved. The panel members included six nursing instructors in a university nursing school and four nurses who had conducted studies on neurosurgical and orthopaedic wards. Each of the panel members was asked to evaluate the 34 items of the final translated version of the ICS, compare it with the original instrument and evaluate each item on a four-point scale. In the scale, 4 = very relevant, 3 = relevant with some adjustment to phrasing, 2 = only relevant if phrasing is profoundly adjusted and 1 = not relevant (Burns & Grove 2005).

Internal consistency

Cronbach's alpha coefficients were used to evaluate the internal consistency reliability of the ICS. Cronbach's alpha coefficients are high when the items that make up an instrument consist of closely related characteristics and are a measure of the internal consistency of the items included in the instrument. For a Likert-type instrument to be adequate, the Cronbach's alpha coefficients need to be as close to 1·0 as possible indicating the reliability through the measurement of consistency. Because all measurement techniques contain some random error, reliability exists in degrees and is usually expressed as a form of correlation coefficient, with a 1·00 indicating perfect reliability and 0·00 indicating no reliability. A reliability of 0·80 is considered the lowest acceptable coefficient for a well-developed measurement tool (Peirce AG 1995, Burns & Grove 2005).

Construct validity

First, the Kaiser–Meyer–Olkin (KMO) and Bartlett's tests were conducted to perform a satisfactory factor analysis. The Kaiser–Meyer–Olkin measure of sampling adequacy tests whether the partial correlations among variables are small. Bartlett's test of sphericity tests whether the correlation matrix is an identity matrix. Then, a factor analysis, a principal component analysis (PCA) with promax rotation, was carried out both in the ICS-A and in the ICS-B. Promax was used as it was reasonable to assume that the three hypothesised subscales measuring the concept of individualised care were correlated. To attain the best-fitting structure and correct number of factors, the following criteria were used: eigenvalues higher than 1·0, factor loadings higher than 0·30 and the so-called elbow criterion regarding the eigenvalues (Polit & Beck 2004).

Ethical considerations

Before the commencement of the study, written permission to use the ICS was obtained. Then, permission to undertake the study was obtained from the hospital ethics committee. Patients who met the inclusion criteria were informed of the purpose of the research and invited to take part as volunteers by the researchers. Participants were assured of their right to refuse to participate or to withdraw from the study at any stage without detriment to their treatment and care. At the same time, they were told that the information they gave would be de-identified, no names would be stored and that their identity would be kept confidential. In this way, the anonymity and confidentiality of participants were guaranteed.

Results

Content validity

Each of the 34 items of the translated ICS was judged by the panel members on relevance and phrasing. For each item, members independently suggested possible improvements in phrasing. Discussions about each of the proposed revisions took place among the panel members until agreement about the content was reached.

Participants

Of 129 patients asked to participate in this study, 120 patients completed the instrument. Patients' age ranged from 18–78 years with mean of 45·5 (SD 15·3) years, 48·3% were women, 76·7% were married and 52·5% were primary school graduates. The majority had health insurance (92·5%) and had previously been at hospital (74·2%). The hospital length of stay varied from 2–67 days, average 9·7 (SD 13·0) (Table 1).

Turkish patients' perceptions of individualised care

In the ICS-A, patients reported that nurses supported their individual clinical situation (Mean 26·3 SD 7·2) and their decisional control over care (Mean 21·8 SD 7·7). However, nurses supported their patients' personal life situation to a lesser extent (Mean 13·1 SD 4·8). In the ICS-B where patients assessed the realisation of individuality in their care, patients reported that their clinical situation over care was facilitated most (Mean 27·4 SD 6·9), and they had their decisional control taken into account well (Mean 25·2 SD 5·4). Again, the patients' personal life situation was taken into account to a lesser extent (Mean 13·9 SD 4·9) (Table 2).

Table 1 Demographic data (n = 120)

	Mean	SD
Mean age	45·49	15·29
	n	%
Gender		
Female	58	48·3
Male	62	51·7
Marital status		
Married	92	76·7
Single	20	16·7
Divorced or separated	8	6·6
Educational level		
Primary school	63	52·5
Middle school	20	16·7
High school	24	20·0
University	13	10·8
Health insurance		
Yes	111	92·5
No	9	7·5
Previous hospitalisation		
Yes	89	74·2
No	31	25·8
Duration of hospitalisation		
1–5 days	73	60·8
6–10 days	17	14·2
11–15 days	7	5·8
16 days and over	23	19·2

Table 2 Scores at the sub-scale level of the Individualised Care Scale (ICS)

Sub-scales	Range	Median	Mean	SD
Support of individuality through nursing interventions (ICS-A)	68	67	61·2	17·3
Clinical situation (Clin A)	28	28	26·3	7·2
Personal life situation (PersA)	16	12	13·1	4·8
Decisional control (DecA)	24	24	21·8	7·7
Perception of individuality in own care (ICS-B)	68	68	66·7	15·5
Clinical situation (Clin B)	28	28	27·4	6·9
Personal life situation (PersB)	16	15	13·9	4·9
Decisional control (DecB)	24	26	25·2	5·4

Internal consistency

The internal consistency of the ICS sub-scales was investigated by Cronbach's alpha coefficients. Cronbach's alpha values for the ICS sections were 0·92 (ICS-A) and 0·93 (ICS-B) (Table 3). The Cronbach's alpha values for the ICS-A sub-scales (alpha coefficients for the ICS-B sub-scales are in parentheses) were 0·86 (0·89) for the clinical situation, 0·72 (0·80) for personal life situation and 0·83 (0·84) for decisional control over care.

Item-to-total correlation coefficients were calculated for the items of each section of the ICS. Average item-to-total correlations ranged from 0·32–0·83 (ICS-A) and from 0·54–0·78 (ICS-B). The corrected item-to-total correlations were acceptable for every ICS-A (ICS-B) sub-scale ranging between 0·29–0·86 (0·44–0·81). Also, the corrected item-total correlations indicated low correlation for item ICS-A9 (Previous hospital experiences). Deleting this item would increased the Cronbach's alpha to value of 0·76 instead of 0·72 (personal life situation A).

Construct validity

The calculated KMO for both ICS-A and ICS-B was 0·86 and 0·84, respectively. Bartlett's test of sphericity was statistically significant. The first step of the factor analysis was a PCA revealing four factors with an eigenvalue > 1. This explained 72% of the total variance in ICS-A and 68% in ICS-B. In this solution, although in general, the items were weighted in the same factors, one item in both the ICS-A (Item 17) and ICS-B (Item13) loaded on factor four. A more suitable factor extraction was sought. Finally, a three-factor solution was chosen because this appeared to have the best possibilities for interpretation. However, as the three dimensions of individualised care were interrelated, a forced three-factor solution with promax (oblique) rotation was generated. The PCA revealed that three factors accounted for 65% of the variance in ICS-A and for 62% in ICS-B. The item loadings in the PCA extraction for ICS-A and ICS-B ranged from 0·46–0·81 and from 0·30–0·79, respectively.

The factor eigenvalues and explained variance percentages in the factors obtained with a three-factor solution are shown in Table 4. The factors had eigenvalues of 7·96–1·42 for ICS-A and 7·73–1·12 for ICS-B, and their variances were between 46·8–8·3% and 45·5–6·6%, respectively. The promax-rotated solution therefore confirms the construct validity of the ICS.

Factor one ICS-A (ICS-B), measuring clinical situation consisted of seven (7) items, with factor loadings ranging from 0·60–0·79 (0·66–0·85). Factor two, measuring characteristics related to the patient's personal life situation, consisted of four (4) items with loadings ranging from 0·62–0·78 (0·41–0·82). The third factor, measuring decisional control over care, consisted of six (6) items with factor loadings of 0·77–0·89 (0·58–0·83). Correlations among factors ranged from 0·40–0·56 in the ICS-A and from 0·30–0·63 in the ICS-B. However, the correlations between the sub-scales measuring clinical situation, personal life situation and decisional control (Pearson's Product Moment correlation) ranged from 0·64–0·76 in the ICS-A and from 0·42–0·65 in the ICS-B.

Table 3 Reliability analysis of the Individualised Care Scales (ICS-A and ICS-B) (n = 120)

Content of the item	ICS-A Scale mean if item deleted*	ICS-A Scale variance if item deleted*	ICS-A Corrected item-total correlation*	ICS-A Cronbach's alpha if item deleted*	ICS-B Scale mean if item deleted*	ICS-B Scale variance if item deleted*	ICS-B Corrected item-total correlation*	ICS-B Cronbach's alpha if item deleted*
Clinical situation				0·856				0·892
Feelings	57·35 (22·45)	272·28 (39·49)	0·546 (0·581)	0·918 (0·841)	62·76 (23·62)	209·84 (33·58)	0·768 (0·813)	0·925 (0·862)
Needs for care	57·35 (22·45)	267·87 (37·14)	0·614 (0·694)	0·917 (0·824)	62·70 (23·55)	212·68 (34·18)	0·656 (0·726)	0·927 (0·872)
Full responsibility for care if resources	57·30 (22·39)	280·88 (41·97)	0·381 (0·465)	0·922 (0·856)	62·38 (23·24)	216·77 (36·58)	0·593 (0·610)	0·929 (0·886)
Changes in condition	57·32 (22·41)	269·56 (39·57)	0·665 (0·642)	0·916 (0·833)	62·66 (23·52)	211·14 (35·25)	0·701 (0·649)	0·926 (0·882)
Fears and concerns	57·58 (22·67)	265·64 (37·70)	0·654 (0·647)	0·916 (0·831)	62·80 (23·65)	215·74 (34·79)	0·596 (0·711)	0·929 (0·874)
Effects the illness had on the patient	57·38 (22·47)	266·81 (39·74)	0·761 (0·659)	0·914 (0·831)	62·66 (23·52)	215·45 (36·63)	0·723 (0·709)	0·926 (0·876)
Meaning of his/her illness	57·80 (22·89)	261·82 (37·02)	0·710 (0·659)	0·914 (0·830)	62·75 (23·61)	213·71 (35·98)	0·659 (0·629)	0·927 (0·884)
Personal life situation				0·717				0·801
Activities of everyday living	58·25 (10·13)	255·34 (13·07)	0·750 (0·584)	0·913 (0·603)	63·40 (10·69)	212·42 (14·48)	0·576 (0·631)	0·930 (0·742)
Previous hospital experiences	57·15 (9·04)	282·11 (17·77)	0·319 (0·287)	0·924 (0·764)	63·31 (10·60)	208·18 (14·46)	0·647 (0·590)	0·928 (0·741)
Everyday habits	58·00 (9·88)	267·52 (13·66)	0·566 (0·603)	0·918 (0·596)	63·16 (10·45)	207·18 (13·94)	0·667 (0·639)	0·927 (0·737)
Desire for family involvement	58·30 (10·91)	260·97 (12·94)	0·615 (0·560)	0·917 (0·620)	62·62 (9·90)	209·34 (14·50)	0·624 (0·592)	0·929 (0·760)
Decisional control over care				0·831				0·836
Received understandable information	57·09 (17·71)	274·28 (40·07)	0·504 (0·438)	0·919 (0·834)	61·95 (20·60)	223·29 (23·19)	0·587 (0·582)	0·930 (0·819)
What the patient wanted to know	57·40 (18·03)	264·07 (37·17)	0·656 (0·538)	0·915 (0·817)	62·19 (20·85)	220·40 (21·48)	0·537 (0·593)	0·930 (0·813)
Views and ideas about care	57·60 (18·23)	257·85 (32·93)	0·738 (0·748)	0·913 (0·773)	62·23 (20·89)	215·64 (21·24)	0·778 (0·723)	0·926 (0·792)
Support to participate in decision-making	57·60 (18·22)	255·75 (31·90)	0·816 (0·859)	0·911 (0·749)	62·39 (21·05)	215·28 (20·56)	0·728 (0·732)	0·926 (0·788)
Making suggestions about care	57·37 (18·00)	258·60 (33·44)	0·833 (0·847)	0·911 (0·757)	62·62 (21·28)	208·94 (18·47)	0·755 (0·766)	0·925 (0·775)
Having a choice when to bath/wash	58·29 (18·91)	273·03 (38·98)	0·369 (0·308)	0·925 (0·874)	62·95 (21·60)	210·43 (19·88)	0·557 (0·436)	0·931 (0·868)
			α	0·921[†]			α	0·932[†]

Values are counted for the whole ICS-A and B scales.

*The values for the ICS sub-scales are in parentheses (clinical situation, personal life situation and decisional control).

[†] Alpha coefficients for the total ICS scales.

Table 4 Factor loadings for the Individualised Care Scales (ICS-A and ICS-B)

	Factor loadings in ICS-A			Factor loadings in ICS-B		
Content of the item	I	II	III	I	II	III
Clinical situation						
Feelings	**0·600**	0·312	0·437	**0·811**	0·104	0·288
Needs for care	**0·662**	0·172	0·498	**0·727**	0·282	0·141
Full responsibility for care if resources	**0·730**	0·218	0·266	**0·849**	0·350	0·319
Changes in condition	**0·702**	0·515	0·581	**0·747**	0·186	0·121
Fears and concerns	**0·713**	0·570	0·462	**0·665**	0·305	0·185
Effects the illness had on the patient	**0·794**	0·705	0·341	**0·763**	0·678	0·314
Meaning of his/her illness	**0·732**	0·673	0·429	**0·656**	0·201	0·323
Personal life situation						
Activities of everyday living	0·459	**0·779**	0·452	0·338	**0·773**	0·183
Previous hospital experiences	0·153	**0·692**	0·231	0·194	**0·405**	0·202
Everyday habits	0·583	**0·618**	0·173	0·461	**0·820**	0·186
Desire for family involvement	0·302	**0·757**	0·228	0·565	**0·711**	0·252
Decisional control over care						
Received understandable information	0·374	0·364	**0·790**	0·524	0·150	**0·675**
What the patient wanted to know	0·596	0·353	**0·815**	0·362	0·199	**0·608**
Views and ideas about care	0·416	0·491	**0·803**	0·119	0·147	**0·827**
Support to participate in decision-making	0·441	0·559	**0·844**	0·625	0·128	**0·782**
Making suggestions about care	0·518	0·518	**0·893**	0·667	0·310	**0·789**
Having a choice when to bath/wash	0·534	0·239	**0·774**	0·513	0·383	**0·584**
Rotated eigenvalue	7·96	1·63	1·42	7·73	1·69	1·12
Percentage of explained variance	46·82	9·59	8·35	45·52	9·94	6·61
Cumulative percentage of total variance explained	46·82	56·42	64·78	45·52	55·46	62·07

Loadings are in boldface if the loading was the highest in its proposed component.

Discussion

The current study presents a cultural validation of the English version of the ICS; following international methodological procedures (Erkut *et al.* 1999, Polit & Beck 2004, Burns & Grove 2005, Sendir & Acaroglu 2008). The results show that the psychometric characteristics of the Turkish version of the ICS are promising. The panel review regarding the content of Turkish version of the ICS indicated that there was no need to modify its translation or content. However, a large sample size will be needed to confirm the semantic equivalence.

The item-to-total correlation and Cronbach's alpha values, calculated to determine the internal consistency of the ICS-A and ICS-B, were found to be quite high. However, in the personal life situation sub-scale of ICS-A, the corrected item-to-total correlation Item nine (Previous hospital experiences) was found to be low from 0·30 (Table 3). It was decided that it would be appropriate for this item (ICS-A9) and to be used because the Cronbach's alpha value with this item in the sub-scale was within acceptable limit.

Looking specifically at the items in the Turkish scale compared with original scale, the cultural characteristics may have been an influencing factor in the results. The Turkish language translation may not accurately reflect some of the cultural characteristics or connotative meaning of the English version for the patients. For instance, the items regarding meaning of illness to the patient and previous hospital experiences had factor loadings above 0·40 in the Turkish version and although correlated low on item-total correlations. A possible explanation for these results might be that Turkish patients do not have any expectation because most of them had experienced a hospitalisation. A translated instrument may need further adaptation before using it in target populations because of linguistic and cultural variations (Peirce 1995, Gözüm & Aksayan 2003, Burns & Grove 2005). In this case, the items about meaning of illness to the patient and previous hospital experiences need to be adjusted or should be removed. The difference in the Turkish scale is possibly related to sample size. Another possible explanation may be that the concept of individualised care as operationalised in the ICS is not culturally appropriate and sensitive.

The construct validity of the Turkish version of the ICS was evaluated using the principal component method with promax rotation. For the purpose of observing the possible effect of cultural differences in the ICS from the English version to the Turkish version of the instrument, eigenvalues of more than one were used. The construct validity of the Turkish version of the ICS supported previous findings with the original version, validated in three stages with three different data sets by exploratory and confirmatory factor analyses (Suhonen *et al.* 2005). The items were originally designed to reflect the three conceptual domains of the ICS (clinical situation, personal life situation and decisional control over care) and the factor solutions also supported these domains. Three factors were extracted, which explained 65% of the variance in the ICS-A and 62% in the ICS-B. Similarly, in the earlier study by Suhonen *et al.* (2005), three factors were extracted which explained 65% of the total variance in the ICS-A and 61% in the ICS-B. Based on the data obtained, the factor structure of the Turkish version of the ICS is similar to that of the original instrument. The factors that were determined in this study are well covered by the basic concepts considered when the scale items were written by Suhonen *et al.* (2005). Keeping in mind the doubt about cultural sensitivity, the factorial result produced by factor analysis is comparable to the other language versions of the ICS (Berg *et al.* 2007, Kalafati *et al.* 2007).

The correlations between the sub-scales measuring clinical situation, personal life situation and decisional control correlated strongly with total ICS Suhonen and colleagues emphasised that the instrument can also be judged to have sensitivity because it is capable of analysing the concepts under consideration. Though not sensitive to the respondents' characteristics, it did measure and was sensitive to the intended areas (Suhonen *et al.* 2005).

Because socio-cultural contexts reflect a constellation of many variables and dimensions, their effects on psychosocial phenomena are best captured if the underlying constructs can be defined equivalently across cultures. Translation of the questionnaires should include a variety of actors besides the official translators to tackle the fine nuances between languages. These may be the use of lay people, content experts and bilingual persons. In addition, the success of translation can be ensured by discussions with the developer of the original instrument. After the basic methods for validating the instruments, construct and content validity should be further examined using e.g. multiple group confirmatory factor analyses or structural equation modelling.

Using this additional culturally tested version of the ICS also provides an opportunity to join with others in international comparative and cross-cultural nursing research. The Turkish version of the ICS can also be used to measure the preconditions needed for such positive patient outcomes as patient satisfaction, quality of life and patient autonomy in an intervention study. A recommendation is that this Turkish version of the ICS should be further evaluated with a larger sample size, in different settings and heterogenic samples in Turkey.

Further study and development may lead to the identification of variables that would improve the Turkish version of the ICS. At least the items about meaning of illness to the patient and previous hospital experiences should be further examined, as it became clear, that cultural factors make it impossible to use these two items for the population under investigation. Therefore, cultural factors, including biases in response rates, need to be addressed not only in this instrument, but also in statistical testing.

Study limitations

There are some limitations in the study that need to be addressed. First, this study was conducted in a single hospital in Istanbul, Turkey. Thus, these findings cannot be generalised to other settings. Second, there were some items with low item-to-total correlations in the total and sub-scales of the ICS-B. Additional studies using the ICS with larger samples are needed to further analyse the underlying attributes of individual care. Third, this study sample consisted only of neurosurgical and orthopaedic patients. Differences in patient perceptions of individualised nursing care for critically ill hospitalised patients or those in elderly care wards cannot be determined from the data reported here. Further studies are required to test the sensitivity of the ICS to these patients. Finally, the sample was small. There were 129 patients who met the inclusion criteria of the study at these units during the data collection period. However, each patient was requested to participate, nine refused and the remaining 120 patients completed the questionnaires.

Conclusion

Based on the results, there is enough evidence of acceptable reliability and validity to use the newly validated Turkish version of the ICS with samples of orthopaedic and neurosurgical patients in Turkey. This study provides further cross-cultural evidence for the usefulness of the ICS in another country with a different cultural background. With this Turkish version of the ICS available, further studies, describing and comparing individualised care from the hospital patients' point of view in Turkey, can now proceed. This is an important advance because individualised care plays a central role in developing the quality and effectiveness of nursing care.

Relevance to clinical practice

The results give evidence that the concept of individualised care may be appropriate in other than Western cultures where the concept has mainly studied. Individualised care is highly valued and can improve patient outcomes. The information, which can be reached by using the ICS, will help the clinical nurses to identify those areas where developmental work could be undertaken. As individualised care was identified now also in the Turkish culture, it may suggest that the concept can be appropriate in Eastern cultures. Because of the increasing lack of health care professionals, especially nurses, the migration of nurses will be one solution for filling the shortage. There is, however, a need for the evaluation basis of clinical nursing larger than in national level. The ICS may be one tool to be used.

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Contributions

Study design: RA, RS, MS; data collection and analysis: MS, HK and manuscript preparation: RA, RS, MS.

Conflict of interest

There is no conflict of interest.

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