


ORIGINAL REPORT

Translation and psychometrics of the Persian version of the Good Nursing Care Scale in Iran

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Abstract

Background and aim: Identifying and evaluating the strengths and weaknesses of nursing care provided to improve the quality of nursing care is increasingly emphasized, and it requires using valid tools in this field. This study aimed to translate and determine the psychometric properties of the Persian version of the “Good Nursing Care Scale” (GNCS-P).

Methods: The present study is a methodological study in which the psychometric dimensions of GNCS-P were studied from the perspective of 200 patients who were admitted to the hospitals of Ardabil University of Medical Sciences. After translating the original version of the scale, its validity and reliability were evaluated and data analysis was performed using statistical package for social science (version 16) and analysis of moment structures (version 24).

Results: The effect score of the item in the evaluation of face validity for each item was above 2.4. The content validity ratio for the scale was 0.88, and the content validity index tool was 0.86. The correlation of total instrument scores with the standard instrument was 0.839. According to the results of factor analysis, the values of factor loading of items were between 0.62 and 0.91, which were all significant. Therefore, the seven dimensions introduced in the main tool were approved. In addition, Cronbach’s alpha results of 0.865 and correlation of 0.894 in the test–retest showed that the questionnaire has internal consistency and acceptable stability.

Conclusion: The Persian version of the GNCS-P has acceptable psychometric properties in the Iranian population and can be used as a valid tool in the areas of quality assessment of nursing care, education, and nursing research.

Implications for Nursing Practice: The results showed the validity and reliability of the tool and its usability as a valid tool in evaluating the quality of nursing care.

KEYWORDS

Good Nursing Care Scale, patient, psychometrics, translation

INTRODUCTION

Care is the most important and basic component of human development and has been a vital factor since human birth, which stimulates personal growth and helps people survive in stressful life events (Watson, 2008). Care has also been considered the most important issue in

health services during the 1940s and 1950s. Also, healthcare institutions have recently begun to value quality care recognition (Ghamari Zareh et al., 2008). However, patients do not consider health as the ideal life, and they need healthcare services to facilitate their coping process in illness situations through care planning (Aghamohammadi-Kalkhoran et al., 2012). So, the quality of healthcare services relies on

the amount of most desirable health outcomes achieved. Besides, this is the criteria for meeting the expected and expressed needs of the client (Donabedian, 1988). According to Donabedian (1988), quality care maximizes the patient's well-being by evaluating and correcting all parts of the care process. Therefore, in defining the quality of care, it is important to know the different opinions of stakeholders, including care providers, payers, and the general public, especially patients as direct care recipients to improve the quality of care (Patel, 2009).

In Iran, since 2011, the Ministry of Health has required all hospitals as its main mission to periodically assess the clients' satisfaction and perform necessary interventions to increase it (Jafari et al., 2010). Moreover, based on the studies conducted in this field, patient satisfaction assessment has had a significant impact on improving the quality of provided care (Bahmaei et al., 2020; Karimi et al., 2013; Khosrowjerdi, 2016; Pourreza et al., 2017). The results of the evaluation or measurement of satisfaction are very valuable because some facts that are not easily obtained from other studies, such as not paying enough attention to needs, participating in decisions, communicating with clients, and how to provide services, will be available with the survey (Atkinson & Haran, 2005). Gathering information about patient satisfaction may also be used to identify the excellence of institutions' performance or work processes that need to improve. If a community aims to qualify services, it will surely achieve quality if it rewards and discusses quality, develops ways to measure and monitor it, takes decisive and effective action, and finds a clear and stable identity with it, says the National Association for Health Care Quality (Perera & Peiró, 2012).

Therefore, paying attention to the perspective of patients as the largest external customers of the organization is an important factor in the field of planning to improve quality (Asefzadeh & Rezapour, 2006). Quality care is unique and individualized to patients and meets their needs and expectations; however, routine nursing care that does not take into account the needs of patients is not good nursing care. Therefore, one of the main tasks of nurses is to identify, measure, and address these needs to improve the quality of nursing care (Davies, 2012) especially if the patient negatively feels powerless and lonely (Salarvand et al., 2008). Reliable tools are needed to measure the quality of nursing care (Wensing & Elwyn, 2002), and these tools should provide clues to optimize care that cannot be obtained through medical history and patient records (Cleary, 2003). However, satisfaction with provided care is a subjective and multidimensional issue affected by both the caregiver and client's attitude and what they express about it (Patel, 2009) which are differently focused on various measuring tools.

During the last decade, several tools have been developed to evaluate the quality of nursing care from the perspective of patients. One of these tools is the "Good Nursing Care Scale" (GNCS-P), it was designed by Leino-Kilpi in Finland in 1998 (Leino-Kilpi et al., 1994) and was revised several times between 2008 and 2013. This instrument has been used in various countries including Finland, Sweden, Lithuania, China, and Turkey, and had desirable psychometric properties (Donmez & Ozbayir, 2011; Istomina et al., 2011; Rehnström et al., 2003; Zhao et al., 2009). In these studies, in addition to paying attention to linguistic features, cultural adaptation and its content have also been revised. So, the items of the tool have changed from 116 items in the initial tool

in 1994 to 54 items in 2008 and 40 items in 2013 (Donmez & Ozbayir, 2011; Istomina et al., 2011; Rehnström et al., 2003; Zhao et al., 2009).

Although it is essential to have a tool for measuring good nursing care, we cannot find any studies regarding the validation of the GNCS-P conducted in Iran according to the literature. Thus, we translated and evaluated the psychometrics of the "Good Nursing Care Scale-patient's version" (GNCS-P) 40-Q, to introduce a valid and reliable scale that reflects the quality of nursing care from different dimensions.

MATERIALS AND METHODS

The present research is a methodological and validation study. The last update (2013) of the Good Nursing Care Scale-patients' version (GNCS-P) was used (Thornton, 1975). This scale is divided into two parts of demographic characteristics with 14 items and the seven dimensions of GNCS-P with a total of 40 items. The main dimensions include nursing staff characteristics, care-related activities, the pre-condition for care, nursing environment, course of the nursing process, patient's coping strategies, and collaboration with relatives with 5, 6, 5, 5, 6, 7, and 6 items, respectively. This instrument is rated on a five-point Likert scale in the range of 0–4 (0 = can't say, 1 = fully disagree, 2 = nearly disagree, 3 = nearly agree, and 4 = fully agree). This scoring shows the quality of care at a range of very low to a very high levels in each dimension. After completing the questionnaire, the mean score is obtained for judgment in the range of 1–4, a score of 1–1.5 indicates the lowest level, and a score of 3.6–4 indicates the highest level of quality of provided care in each item, dimension and total scale score (Thornton, 1975).

After contacting the questionnaire developer and getting an approval license for translation and testing psychometrics of the Persian version, the ethics code IR.ARUMS.REC.1396.24 was received from the ethical committee of Ardabil University of Medical Sciences. Two independent PhD holders in nursing education whose mother language was Persian and who were familiar with the concept of nursing care translated the original version of the questionnaire from English to Persian. Then, a single version of the Persian translation was extracted by combining the two independent translations. Following this step, another independent translator who was a PhD in English literature back-translated the scale to English without being aware of the primary scale. Finally, by putting together the translations and discussing the possible differences, and matching the original version with the English version, the Persian version of the GNCS-P questionnaire was prepared (Sousa & Rojjanasrirat, 2011). To evaluate the face validity of the Persian version of the tool, 20 patients were asked to determine the importance of each item of the questionnaire on a five-point Likert scale from 1 (not at all important) to 5 (absolutely important); then, data were quantified with the item effect score formula (importance \times frequency = impact score). The item that scored equal to or greater than 1.5 was retained for subsequent analysis and the other items were removed (Broder et al., 2007). To evaluate the quantitative content validity, the content validity index (CVI) and the content validity ratio (CVR) were examined. The validity index of the instrument

was determined using the opinions of 11 nursing experts based on the Waltz and Basel index in which the relevance, clarity, and simplicity of each item were assessed based on a four-choice relevancy index. this ratio was calculated on the total number of answers for each item with scores 3 and 4, on the total score of tool; so, items that scored 0.79 or higher were approved (Vakili & Jahangiri, 2018). To evaluate the content validity ratio, 11 faculty members of Ardabil University of Medical Sciences, as experts and knowledgeable people in the field of nursing care, were asked to express their views on the necessity of having items after a careful review of the scale. The experts' responses were coded as not necessary, useful but not necessary, and necessary to quantify the experts' panel comments in a range of 1–3.

According to the Lawshe table, a CVR of 0.59 or greater scores was considered unconditional acceptance of those items, and the items with less scores were omitted (Ayre & Scally, 2014).

Setting

The study population included all patients admitted to the general wards of four educational hospitals affiliated with the Ardabil University of Medical Sciences. Inclusion criteria were considered as having appropriate physical and mental conditions to answer the questionnaire, fluency in Persian, being literate at least to the pre-high school level, hospitalization in general internal and surgical wards of the target hospitals, and at least 3 days of current hospitalization. The minimum acceptable sample size for factor analysis is proportional to the number of tool items and five people per item (Revicki et al., 2014). Because the instrument has 40 items, the minimum sample was calculated to be 200 patients. Sampling was done in a stratified manner so that the internal medicine and surgery wards of the studied hospitals were stratified, and then several wards were randomly selected. Ten random patients completed the scale in each ward. This process continued until reaching the desired number of samples.

Study participants were informed of the purpose and method of the study and were assured that all information would be confidential. After obtaining informed written consent and providing the necessary explanations on how to complete the questionnaire, the data were collected.

Confirmatory factor analysis was used to investigate the relation of 40 items of the scale to seven theoretically determining factors. Thus, 200 patients completed the instrument, and then the data were entered into analysis of moment structures (v. 24). Then, the fitness model was considered to have fitness under the following circumstances for the fit indices. So, if the chi-square to the degree of freedom ratio was below 3, comparative fit index was 0.95 or higher, the root mean square error of the approximation was less than 0.05, the normal fit index was 0.95 or higher, and the Tucker-Lewis index was 0.95 or higher, the fitness of final assumed model could be proved (Lin et al., 2018).

The criterion validity indicates the extent to which the instrument under study is relevant to an external standard. If there is an external standard, the validity of the criterion should be examined. The overall purpose of the GNCS-P for its developers was to evaluate the quality

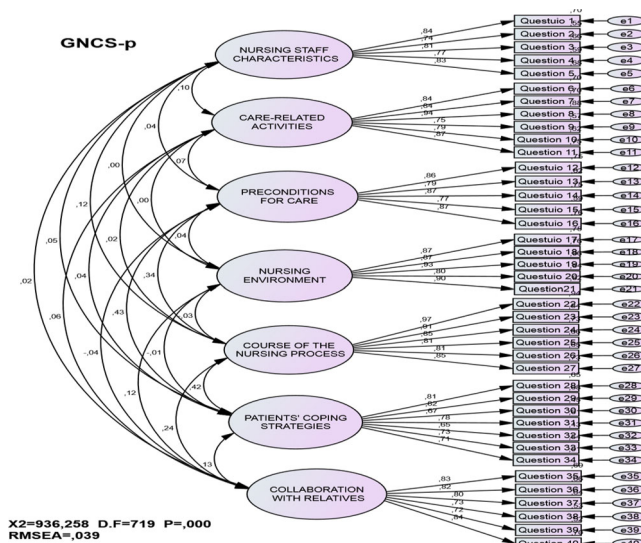


FIGURE 1 Fitting indices of the final assumed mode

of nursing care (Leino-Kilpi et al., 1994). Based on the review of the literature, among the tools designed or translated in the field of measuring the quality of nursing care in Iran, the closest one in terms of overall purpose and objectives is the “Quality of Patient Care Scale” (QUALPAC). This has been psychometrically tested in Iran (Pazargadi et al., 2007) and is used to assess concurrent criterion validity. A correlation of at least 0.7 between the instrument and the external standard is acceptable (Terwee et al., 2007). Therefore, the same participants completed the QUALPAC as a criterion tool after a 2-h break from completion of the main tool, and then the correlation between them was examined.

To determine the reliability using the test–retest method, 30 independent patients not included in the main sample size admitted to the target hospitals were selected randomly and asked to complete the Persian version of the instrument twice in a 2-week interval. Finally, the correlation between the scores of the two tests was evaluated using Cronbach's alpha.

RESULTS

The results showed that 44% (88) of participants were in the age group of 26–30, 96% (192) were married, 57.5% (115) were women, 58% (116) had a high school diploma, and 41.5% (83) of them were unemployed.

The effect score of the item was 3.72 for all and between 2.4 and 5 for each item. Thus, the face validity of all items and the whole scale was accepted. According to the results, the mean CVI score was 0.87 for the whole scale and 0.80–0.96 for each item, also the mean CVR score was 0.88 for the whole scale and 0.63–1 for each item. Therefore, based on the considerable CVI and CVR validity measures, all items were accepted.

Confirmatory factor analysis resulted in the final model of Figure 1 and the fitting indices of the final hypothetical model in Table 1, which shows a good estimate of general indicators of pattern fitness.

TABLE 1 Fittings of the final assumed model

RMSEA	NFI	TLI	CFI	df/ χ^2	df	χ^2
0/039	0/87	0/96	0/97	1/30	719	**936

Abbreviations: CFI, comparative fit index; df, degree of freedom; NFI, normal fit index; RMSEA, root mean square error of approximation; TLI, Tucker-Lewis index.

**Level of significance: 0.001.

TABLE 2 Results of internal consistency test (Cronbach's alpha) and test-retest

Correlation coefficients	Number of items	Cronbach's alpha coefficients	Spearman correlation coefficient	p-Value
Good Nursing Care Scale-patients' version category				
Nursing staff characteristics	5	0/892	0/686	0/01 <
Care-related activities	6	0/931	0/668	0/01 <
Preconditions for care	5	0/911	0/768	0/01 <
Nursing environment	5	0/932	0/800	0/01 <
Course of the nursing process	6	0/947	0/754	0/01 <
Patient's coping strategies	7	0/885	0/788	0/01 <
Collaboration with relatives	6	0/900	0/765	0/01 <
Total	40	0/865	0/877	0/01 <

Based on the concurrent criterion validity of the scale, the correlation of 0.839 between the GNCS-P and the QUALPAC indicated a high correlation between the instrument and the criterion tool.

The reliability results of the scale revealed that the Spearman correlation coefficient was 0.877 for the whole scale and between 0.688 for the "care-related activities" to 0.800 for the "nursing environment" dimensions. In addition, internal consistency for the whole instrument was 0.865 and between 0.885 for the "patient's coping strategies" to 0.947 for the "course of nursing process" dimensions (Table 2).

DISCUSSION

The results demonstrated the validity and reliability of the GNCS-P and its usability as a valid tool in evaluating the quality of nursing care. Previous psychometrics of this instrument were studied by Zhao et al. (2009) in China, Donmez and Ozbayir (2011) in Turkey, and Leinonen et al. (2001) in Finland.

Leinonen et al. (2001), Zhao et al. (2009), Istomina et al. (2011), and Donmez and Ozbayir (2011) assessed the face and content validity of this scale. Twenty-six items were removed in the content and face validity review stage by Leinonen et al. (2001). In the rest of the studies, 100% of the items were retained. In addition, in the studies of Rehnström et al. (2003), Zhao et al. (2009), Istomina et al. (2011), and Donmez and Ozbayir (2011), the content validity was quantified by examining the CVI, which was acceptable. The findings of the current study are congruent with these studies as well.

In terms of internal consistency, in the study of Leinonen et al. (2001), Zhao et al. (2009), Istomina et al. (2011), and Donmez and

Ozbayir (2011), Cronbach's alpha calculation was used, which was at an acceptable level for the whole instrument and its dimensions. In our study, the Cronbach's alpha coefficient used for examining the scale's reliability was at a proper level and close to the results obtained in the above-mentioned psychometric studies. This indicates that the GNCS-P is internally consistent and reliable in diverse contexts and especially in Iran as the target area.

In the present study, a very good level of correlation between the test and retest at the whole instrument and its dimensions revealed a high level of scale stability. Donmez and Ozbayir (2011) also used the test-retest method to evaluate the stability of the instrument, which had a very good stability. Therefore, according to the results of the present study and similar studies that have tested for the reliability of the studied scale, it can be said that the GNCS-P is reliable and stable in various contexts.

The limited opportunity to compare the results of the present study with similar studies in Iran and neighboring countries due to the lack of similar studies was one of the limitations of this study. In addition, in measuring the validity of the criterion, there was no tool similar to our instrument, and the selection of tools in this study was only based on the similarity of the goals and the frequency of its use in studies to assess the quality of nursing care in our country.

CONCLUSION

The results of the current methodological study demonstrate that the Persian version of GNCS-P meets the sufficient level of tested psychometric properties. Considering the internal consistency and high

reliability of the questionnaire in test-retest, as well as confirming the content, construct, and criterion validity of the questionnaire, it can be stated that the Persian version has concordance with the main scale and can be used as a measurement tool for evaluating the quality of nursing care in Iran. On the other hand, the questions of this scale are designed in a manner that besides the quality of nursing care, they also evaluate the factors affecting the quality. In addition, because the original version of the questionnaire has been translated into several other languages and has been used in various research, it will provide the ability to compare the results of any national research with worldwide research.

The nursing care quality as a concept is needed to be studied in various clinical or educational settings with a proper instrument that provides an objective judgment for any comparison. For this reason, the valid and reliable Persian version of GNCS-P is sufficiently appropriate to be utilized.

IMPLICATIONS FOR CLINICAL PRACTICE

Nursing managers might use this scale to solve many problems related to caring and organization. This may result in provision of the best quality of care and satisfied nursing staff.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

ETHICS STATEMENT

This study was a master thesis. We started to collect data after getting approval from the Ardabil University of Medical Science. The study's Approval ID was IR.ARUMS.REC.1396.24. We assured the participants that all their information would be kept confidential and that only the researchers would access it. We told them that their participation was voluntary and that they may withdraw from the study at any time. All methods were performed per the relevant guidelines and regulations.

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