Original Article

Designing and Psychometric Evaluation of Nurses' Social Responsibility Instrument: A Mixed-Method Study

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Abstract

Background: To provide excellent nursing care services, nursing standards should be considered; one of these standards is being socially responsible. Regarding the lack of appropriate instruments in Iran for measuring social responsibility, the design of an instrument in accordance with Iranian culture seems to be necessary. So, the present study aimed to design a valid and reliable tool for measuring the social responsibility of nurses. **Materials and Methods:** In this sequential exploratory mixed-method study, designing and psychometric evaluation of nurses' social responsibility instrument were performed in qualitative and quantitative phases. In the qualitative phase, the concept of nurses' social responsibility was explored and its characteristics and dimensions were identified using a hybrid concept analysis model. In the quantitative phase, validity (face, content, and construct), and reliability (Cronbach's α and interclass correlation) were examined a sample of nurses in Tehran, Iran (n = 280). The construct validity of the scale was determined using exploratory factor analysis. **Results:** The findings supported 23 items in four factors: dedicated to others, efforts to improve social conditions, holistic vision, and favorable relationship. A total of 44.40% of the variance was explained by these four factors. Scale-Content Validity Index/Average (S-CVI/AVE) was calculated 0.91 and it was found that the Cronbach's alpha was 0.88. **Conclusions:** The researchers focused on designing and psychometric evaluation of nursing social responsibility tools based on nurses' opinions and prepared a native, valid, and reliable tool, which seems to be a good tool for measuring the social responsibility of nurses.

Keywords: *Exploratory factor analysis, nursing, psychometrics, social responsibility*

Introduction

In order to provide the best nursing care and to create patients' satisfaction, it is crucial to consider nursing performance standards including social responsibility.[1] Studies that have been conducted from 1953 to 2008 show that the concept of social responsibility is overlapping with such concepts as business ethics, citizenship rights, environmental responsibility, social performance, and humanitarianism, in some aspects.[2] In general, social responsibility involves ethical issues in which the people do not exclusively think of themselves and their own interests, but the benefits for others, as well.[3] But it is not an inclusive definition and it is important to define this concept in nursing.

Measurement of the nurses' social responsibility is one of the significant concerns of health systems. Because obviously, high responsible nurses are more likely to improve the quality of care and increase patient satisfaction.[4] Although, in recent years, remarkable progress has been made in the field of social responsibility and managers and organizations pay a lot of attention to this concept but Iranian managers and organizations are somewhat unfamiliar to this concept.[5] So, in order to improve social responsibility among personnel, it should be carefully evaluated. Among the models introduced for social responsibility, there are issues and no one can be used exclusively for certain groups like nurses. In addition, social responsibility is also influenced by social and cultural factors; and elements such as socioeconomic status, ethnicity, religion, and the extent of using mass media are effective in the emergence of social responsibility.[6] Therefore, in order to create a suitable and appropriate questionnaire for nurses, at first, these elements should be considered in any society. A tool designed

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in a particular country only reflects the language and culture of that society; in cases which it is used in another society, even after accurate translation, there will be a lot of problems due to the lack of appropriate content.[7]

Many social responsibility tools are largely descriptive or a translation of western instruments, some of which are unknown to the Iranian nurses or are not applicable to them.[5,8] Obviously, there is a clear vacuum of social responsibility tools for clinical nurses which firstly define this concept with respect to Iranian culture, and second, have reliability and validity. So, regarding the lack of appropriate measuring instrument in Iran for evaluating social responsibility, and given the increasing importance of social responsibility in all disciplines, and in nursing particularly, the design of an instrument in accordance with Iranian culture seems to be necessary. A valid and reliable tool could be used in order to evaluate social responsibility in nurses, and thus, discover the barriers and obstacles which are in developing nursing way. And then, with resolving these problems, the quality of nursing care could be enhanced and patients' satisfaction could be achieved. So, the present study aimed to design a valid and reliable tool for measuring the social responsibility of nurses that is practical and appropriate to use for the Iranian community.

Materials and Methods

In this sequential exploratory mixed-method study, designing and psychometric evaluation of nurses' social responsibility instrument were performed in two phases: qualitative phase (designing nurses' social responsibility instrument) and quantitative phase (examining the validity and reliability of the nurses' social responsibility instrument)[9] [Figure 1].

In the first phase of the study, the concept of nurses' social responsibility was explored and its characteristics and dimensions were identified using a hybrid concept analysis model which consists of three phases (theoretical, fieldwork, and analytical phase). In the theoretical phase, published articles related to the subject of the study were searched out in databases such as "ProQuest," "PubMed (MEDLINE)," "Elsevier," "Google Scholar," "SID," "IRANDOC," "MEDLIB," "IRANMEDEX," and "Magiran" since 1950 (when the concept of social responsibility professionally and academically entered the scientific texts) to 2018 in both Persian and English languages. Keywords for searching were responsibility, social responsibility, nursing social responsibility, corporate social responsibility, instrument, tool, questionnaire and words related to nursing and health like a hospital, health and care, as well. Inclusion criteria were the existence of social responsibility in the keywords or title of the articles, and access to the full text of the article. Exclusion criteria were publications and articles in languages other than Persian and English, redundant and nonmedical articles and lack of access to the full text of the articles. After a comprehensive search in the databases, 33 Persian and 8 English articles were selected and analyzed for determining the characteristics, antecedents, and outcomes of the concept of nursing social responsibility [Figure 2].

In the fieldwork phase, qualitative data were collected from 18 nurses with different positions and responsibilities including clinical nurses, head nurses, and supervisors (to achieve a maximum variety of sampling methods). Participants were selected based on purposeful sampling method and a minimum of 6 months working experience. Data were collected through deep semi-structured interviews and taking notes during interviews and asking questions such as "what does the concept of nursing social responsibility mean," "what are the characteristics of a nurse with social responsibility," and "what are the factors that increase or decrease the nursing social responsibility." The duration of the interviews varied between 40 and 60 min and the number of sessions between 1 and 2. To analyze the data, directed content analysis was used because the analysis was based on an operational definition, which was created in the theoretical phase of hybrid analysis and relevant research findings as guidance.[10]

In the analytical phase of hybrid concept analysis, findings of the two previous steps were combined and analyzed using qualitative content analysis method. So, 183 items

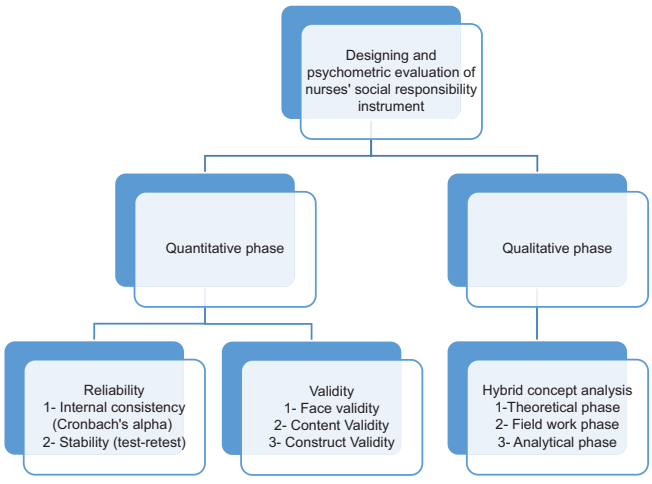

Figure 1: Procedures for designing and psychometric evaluation of nurses' social responsibility instrument

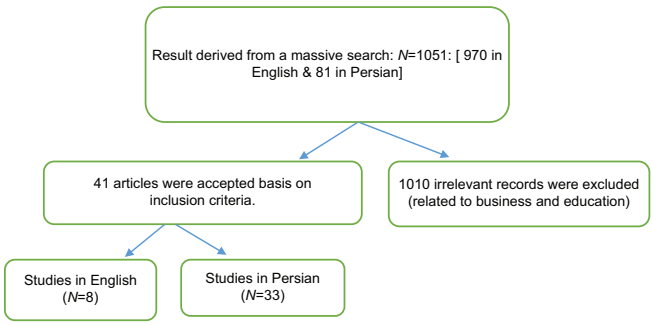

Figure 2: Flowchart of search process

were created in the initial form of the nursing social responsibility instrument at the end of the qualitative phase. Then, two meetings with experts and professional professors were held and the research team asked their comments on the best and most relevant items; and if they are suitable and appropriate. After these two meetings, the number of items was reduced to 50, and then the instrument for testing psychometric properties entered the second phase (quantitative one).

The validity of the nursing social responsibility instrument was evaluated using face, content, and construct validity procedures. Face validity was achieved both qualitatively and quantitatively. First, 10 nurses who worked in the different wards of hospitals were asked to give comment on the difficulty, relevancy, and ambiguity of the items (qualitative face validity). The nursing social responsibility instrument amended according to nurses' comments. Item impact technique was used for evaluating the quantitative face validity; 10 nurses were invited to pilot the instrument determining the importance of the items on a Likert-type scale from 1 (not important) to 5 (absolutely essential). The item impact scores of each item were calculated by using the formula: importance × frequency (%). In this formula, frequency is the percentage of nurses who ascribed a score of 4 or 5 to the intended item and importance is the mean score of that item. If the impact score of the item was greater than 1.5, the item considered as suitable and remained for the next stage.[11]

Then, content validity was done in both qualitative and quantitative ways. In qualitative content validity, 10 experienced specialists in the field of nursing, nursing management, and instrument development were asked to state their corrective comments on grammar, wording, item allocation, and scoring of each item. Then based on their comments, the instrument's items were edited by adding, removing, or changing the words. Thereafter, the quantitative content validity was assessed through the Content Validity Ratio (CVR) and Content Validity Index (CVI); CVR states if the items are essential or not. Accordingly, 13 experts were asked to rate the essentiality of the nursing social responsibility instrument items on a three-point scale as follows: not essential: 1; useful but not essential: 2; and essential: 3.[12] The CVR for each item was calculated by the following formula: $CVR = (n_e - N/2))/(N/2)$. In this formula, N and n_e are, respectively, equal to the total number of experts and the number of experts who scored the intended item as "essential." According to Lawshe (1975), when the number of experts is 13, the minimum acceptable CVR is equal to 0.54.[13] CVI shows the degree to which the items of the intended instrument are relevant. CVI was calculated for each item of the scale (item level or I-CVI) and for the overall scale (scale level or S-CVI). Accordingly, nine experts were asked to rate the items in terms of relevancy on a four-point scale from 1 to 4. The I-CVI of each item was calculated by dividing the number of experts who rated that item as 3 or 4 by the total number of the experts and a score of 0.79 or more was considered for accepting the items based on CVI.[14] In the next step, based on the mean score of the content validity index of all items, the average content validity index (S-CVI/Ave) was calculated. Polite and Beck recommend a score of 0.9 or more for the average content validity index.[14] The most critical to CVI is the high probability of false values because the risk of chance agreement threatens it. Cohen's kappa coefficient is a statistic that measures inter-rater agreement for qualitative (categorical) items. It is generally thought to be a more robust measure than simple percent agreement calculation, since κ takes into account the agreement occurring by chance. Cohen's kappa measures the agreement between two raters who each classify N items into C mutually exclusive categories. Cohen's kappa coefficient is defined and given by the following function: $\kappa = 1- [(1-Po)/(1-Pe)]$. Where Po = relative observed agreement among raters and Pe = the hypothetical probability of chance agreement. Po and Pe are computed using the observed data to calculate the probabilities of each observer randomly saying each category. If the raters are in complete agreement then $\kappa = 1$. If there is no agreement among the raters other than what would be expected by chance (as given by Pe), $\kappa \leq 0$.[14]

Construct validity was evaluated in a cross-sectional study on nurses in Tehran hospitals. For sampling, the main researcher referred to 12 hospitals affiliated to Iran University of Medical Sciences and a convenience sampling method was used to recruit the participants after taking informed consent. Inclusion criteria included a minimum of 6 months of work experience in the hospital. The sample size was determined based on a minimum of 10 samples per item.[15] After the face and content validity phase, about 26 items were left, and 260 samples were theoretically calculated but 280 samples were practically recruited in the study. The age of samples was between 23 and 55 years old and they were employed in different wards of the hospital. Data were collected from 280 questionnaires and analyzed using SPSS 18. In order to conduct construct validity, an Exploratory Factor Analysis (EFA) was used and in this phase, the Principal Axis Factoring (PAF) method and the Promax rotation were used. Missing data were less than 10%.[16] To achieve the optimal number of factors, the following tables of SPSS results were considered: 1. the total variance. 2. Eigenvalue and 3. Scree plot. Kaiser-Meyer-Olkin (KMO), and Bartlett's test of sphericity were done, too. To determine the number of factors, the Eigenvalue was considered more than one and the factor load was more than 0.3.[17,18]

Two methods of internal consistency (Cronbach's alpha) and stability (test-retest) were used to determine the reliability of the instrument. Although alpha higher than 0.7 is considered as the acceptable reliability of the

instrument, some experts consider the values 0.6–0.9 to be more appropriate, depending on the nature of the tools and structures being measured.[19] To verify the stability of the instrument, a test-retest method, using Interclass Correlation (ICC) was used and completed by two samples of 16 nurses in two phases with a 2-week interval. The sample size at this phase, taking into account the minimum correlation coefficient (r = 0.6), was calculated.[19]

Ethical considerations

This research was approved by the ethics committee of Iran university of medical sciences with the code IR.IUMS.FMD.REC.1396.9221199201 dated September 18, 2017. All the participants were informed about the study objective and written informed consent was obtained from each of them.

Results

The findings of the qualitative part of this study showed that "social responsibility" is a "learner-based" attribute that is "comprehensive, spirituality based, and relative," meaning that people with higher social responsibility find themselves in relation with the "environmental and human factor" of the society in which they live and work, and they do so through benevolent and voluntary activities that are not expected to receive rewards in return for doing. So, in many cases, they try to do the best and most possible work for the patient or client, depending on the situation and circumstances, and somehow sacrifice and dedicate themselves to the patient. The first step in acquiring social responsibility is that the person must be accountable, and then this attribute in later stages and over time undergoes an evolutionary process in the presence of factors such as learning in the family, school, and society. And ultimately, it increases job satisfaction, creates more loyal forces in the organization, develops social justice, and increases the quality of health care [Table 1].

To design the questionnaire, a list of items was extracted from three sources: 1) review of the past-related articles, 2) semi-structured interviews with nurses, and 3) review of existing questionnaires. In this way, the most important and relevant items, including 183 ones formed the item pool. These items covered all aspects of social responsibility (based on the results of the hybrid concept analysis model). After two meetings of the research team and professionals, the number of items decreased to 50 by selecting the best relevant items and then, the psychometric process was conducted.

In the phase of evaluating face validity of the tool, many items were revised, edited and became more understandable based on the views of the participating nurses, who were the main target group of social responsibility tools. During the qualitative content validity phase, 17 items were eliminated due to the CVR $\leq$ 0.54 (according to Lawshe' cut-point for 13 specialists). All suggested comments were also made on the items and then a tool with 33 items was sent to 20 experts to determine CVI, only 9 of which sent a response. In calculating I-CVI, seven items with a score of less than 0.79 were omitted. Also, the S-CVI/AVE was calculated at 0.91. Finally, after summarizing the opinions of the experts, 26 items remained in the tool and considering the 5-point Likert scale, from never to always, and a neutral option (sometimes) items became measurable (with the maximum score of 125 and a minimum score of 23) [Table 2].

After performing the Exploratory Factor Analysis (EFA), the results of the four main outputs were presented as follows. The first output presented the calculated value of the Kaiser-Meyer-Olkin (KMO) index, which was 0.91 in this study; therefore, the sample size was sufficient to perform factor analysis. Bartlett's test of sphericity also showed the suitability of the factor analysis to identify the structure of the factor model at the level of $p \leq 0.001$ [Table 3].

Another output is about commonalities (h^2) [Table 4]. This is the proportion of each variable's variance that can be explained by the factors. It is also noted as h^2 and can be defined as the sum of squared factor loadings for the variables.[20]

The other output is the total variance explained table [Table 4]. The variance explained by the initial solution, extracted components, and rotated components. This first section of the table shows the initial Eigenvalues. The total column gives the eigenvalue or amount of variance in the original variables accounted for by each component. The other output is the pattern matrix table which holds the loadings [Table 4]. Each row of the pattern matrix is

Table 1: Features derived from analytical phase of the hybrid concept analysis

Derived attributes	Theoretical and fieldwork phase
Multidimensional and comprehensive approach	Attention to the community environmental factor
	Attention to the human factor of the community"
	Inter-professional communication
	Considering the organization (hospital) benefits
	Multidimensionality
	Having a mother-like behavior
Spirituality based	Voluntary actions
	Benevolent actions
	Attention to conscience
	Self-devotion
Relativity	Attention to the conditions
	Do the best in any situation
	Maximum assistance in any circumstances

essentially a regression equation where the standardized observed variable is expressed as a function of the factors. The latter matrix contains the correlations among all pairs of factors in the solution.

The first factor with a special value of 7.95 contained 10 items with a factor loading of 0.35 and 0.84 maximum, the second factor was with a special value of 1.75 included six items with a factor load between 0.40 and 0.77, the third factor with a special value of 1.44 contained four items with a factor of between 0.37 and 0.69 and the fourth factor with a special value of 1.16 contained three items with a factor between 0.49 and 0.75. Therefore, based on the results of the exploratory factor analysis performed on 26 items, 23 items were approved and ranked in four factors: the first factor, with 10 items entitled "dedicated to others" and the next three, with six, four, and three items, respectively, were titled "efforts to improve the social conditions in the community," "holistic vision," and "favorable relationship."

Twenty-four nurses were asked to complete the tool (nurses' social responsibility instrument) to evaluate test-retest reliability. After 2 weeks, the instrument was sent to the same 24 samples again, out of them 16 nurses completed and returned it. The coefficient of consistency between these two tests was 0.90, which confirmed the sustainability of the tool over time [Table 4].

Finally, after performing the psychometric evaluation of nursing social responsibility tool, 23 items with a reliability of 0.88 with four factors "dedicated to others" (including 10 items), efforts to improve social conditions (with six items), holistic vision (with four items) and "favorable relationship" (with three items) were obtained.

Discussion

This study is the first attempt to design and test the psychometric properties of an instrument, for measuring the social responsibility of Iranian clinical nurses, and items were directly designed based on the data obtained from a qualitative study on nurses working in hospital, using experts' opinions, and a comprehensive review of the existing literature on social responsibility. In fact, one of the strengths of our study was that we used both qualitative and quantitative methods to produce initial items of the nurse's social responsibility tool and then using the most powerful statistical methods to determine its validity and reliability. But other studies like Hassanian *et al*.,[8] which seems to be the most relevant study to our study, used the only descriptive method to measure social responsibility in nurses and they just used a translated copy of a western questionnaire which is surely different with the context of the nursing position in Iran. Fasele-Jahromi *et al*.[21] say that given that nursing social responsibility is a phenomenon that is influenced by the cultural and native issues of any society, like economic situation, religion, etc., besides reviewing the literature, a profound review of nurses' lived experiences with a qualitative approach for designing the tool is essential that was taken into account in this study.

In the first phase of the study (qualitative phase), after analyzing the conversations and interviews of nurses participated in this study, attributes such as comprehensive, spirituality-based, and relative were defined for nurses' social responsibility. Comprehensive and spiritually-based attributes have been supported by previous researches.[21-25] But the attribute of the "relativity" was extracted which was one of the characteristics of social responsibility that has not been mentioned in the Iranian and foreign literature, but in our study almost all the participants pointed to. Maybe the cause that Iranian nurses consider social responsibility as a relative phenomenon is the conditions and problems that this profession faces within Iran such as labor difficulty, numerous psychological, and physical complications of nursing staff, heavy job shifts, lack of nursing staff, high numbers of patients, nonstandard ratio of nurses-to-patient, lack of adequate government's support from nurses' position, etc. In fact, nursing and care is done routinely only on the orders of the physician and other aspects of care cannot be done,[21] such as paying attention to the patient's companion, the benefits of the hospital, keeping track of the patient's condition at home, and attention to the environment, etc. (all of which are exemplified cases of social responsibility). In fact, Iranian nurses with high social responsibility try to do their best in any situation due to high consideration of spirituality and conscientiousness. However, if the conditions and situation of the hospital environment and ward are not appropriate, they will confine to the least and only do their main duties within their work timeframe. Therefore, it seems that performing the proposed solutions obtained from the interviews can greatly help to clarify the definition of social responsibility and ultimately lead to quality nursing care. Some of these solutions include clarifying the concept of social responsibility in nursing more precisely, conducting further research on barriers to care in the economic, psychological and social aspects of nursing, and considering better salary and benefits for nurses.

In this study, four dimensions were extracted to measure nursing social responsibility. The most related dimension to Carroll's model introduced by Carroll (1991), with four dimensions: economic, legal, ethical, and humanitarian responsibility,[26] is the humanitarian, which was named in our tool as "dedicated to others." Humanitarian activities and dedicated to others are voluntary efforts by individuals or organizations to address the problems and issues of society. This responsibility means giving up money and time for services, partnerships, and voluntary contributions to others, and in some way to sacrifice

Table 2: Deleted items and cause of removal in assessing of the face, content, and construct validity

Deleted items	Cause of removal	Number of remaining items	Number of deleted items	Phase
-	-	50	0	Quantitative and qualitative face validity
I feel responsible for my colleagues I am committed to the responsibilities of the nursing profession. In every situation, I do the maximum amount of work I can afford for others. In considering and deciding different professional and personal issues, I consider all aspects. I consider myself bound to act on the basis of learned knowledge and awareness. If the conditions are right, I will do something for the patient outside of the description of my responsibilities (such as combing a patient's hair, giving blankets, etc. If I do something for the patients, I will not expect them to thank or give a reward. I behave in my profession in a way which makes the society's view of the nursing profession in a positive direction. In my responsibilities, I also consider the intangible and spiritual aspects of the issues. In every professional and personal activity and affairs, I am like a general director to everything I feel responsible for all people in the community I live in (family, neighbors, colleagues, and friends). In my peripheral environment (out of work), as a nurse, I do not hesitate to help others. I feel responsible for the rights of living organisms and animals. In pursuing my responsibilities, I do not seek to attract attention or gain the praise of myself. As much as possible, I try to solve the problems of others. I am volunteering to do positive and useful things that may be beyond the responsibility of the nurse. I am able to solve or reduce the problems of the people around me.	Score <0.54	33	17	Content Validity Ratio (CVR)
In unfavorable conditions (such as lack of personnel, large numbers of patients, lack of equipment, etc.), I will do the best possible care. In case of inappropriate conditions of the ward (such as a large number of patients, nursing staff or equipment shortage, etc.), I will prioritize more crucial responsibilities. After the discharge of the patient from the hospital, I follow his condition at home. I also consider the religious and spiritual beliefs of my patients in my caring duties. I will establish a good and effective relationship with my colleagues (with respect and kindness). All the staff at the treatment team (such as a nurse's associate, doctor, service provider, etc.) are important to me. By taking all aspects of the situation and circumstances into account, I will do my best possible.	Score <0.78	26	7	Content Validity Index (CVI)
In case of inappropriate conditions in the ward (such as a large number of patients, lack of personnel, lack of equipment, etc.), I use my maximum capability to take care of the patient. I am accountable in front of my boss. I learn from responsible people.	Factor loading <0.30	23	3	Construct validity (exploratory factor analysis)

themselves. Comparison of our tool with other tools, in addition to including many of the main dimensions of social responsibility models, has new features (holistic vision) that are specific to the nurse's social responsibility

Table 3: Kaiser-Meyer-Olk (KMO) and Bartlett's test

KMO and Bartlett's test	
KMO measure of sampling adequacy	0.91
Bartlett's test of sphericity	
Approx. Chi-square	2485.38
df	253
p	*p*<0.001

tool (items 17–20 in the instrument). Having a holistic vision for a nurse is so important to be called responsible. Amiri *et al*.[22] also introduced social responsibility as a voluntary work which includes business practices and behaviors in the workplace, empowering employees, workplace safety, customer rights, environmental considerations, energy management, energy saving,

Table 4: The results of performing exploratory factor analysis on the nurses' social responsibility instrument

Factor' s name	Items	Loading	h^2	Variance%	λ (95% CI*)	Reliability
Dedicated to others	I feel responsible for the various duties assigned to me (professional and non-professional ones).	0.84	0.43	32.20	7.95	a (95%) = 0.79
	I do not hesitate even in the non-working setting (out of hospital) if I can help others (help like financial, emotional, psychological, etc.).	0.58	0.56			ICC=0.76 (0.56-0.90)
	At work, I cooperate with other people in the treatment team.	0.54	0.34			
	I do not hesitate in any situation and circumstances that I feel my knowledge and science are needed.	0.54	0.55			
	As a nurse citizen, I respect the rights of others in the workplace and society.	0.54	0.44			
	Even in the absence of supervision, I will do my best of duties.	0.49	0.49			
	I support my friends and colleagues when they are entitled to the right.	0.47	0.50			
	I am not indifferent to the problems and difficulties of other people in society.	0.42	0.35			
	I make responsible people my role model	0.36	0.35			
	I obey the principles of waste separation.	0.35	0.36			
Efforts to improve social conditions	I would like to take steps to help improve the social status of the community.	0.77	0.36	5.49	1.75	a (95%) = 0.77
	I refuse to do any activities that may harm the community.	0.76	0.59			ICC** = 0.71 (0.44-0.88)
	I participate in environmentally friendly activities and programs.	0.58	0.61			
	As far as I can, I try to build a better world for myself and others.	0.54	0.53			
	I feel responsible for protecting the environment.	0.45	0.49			
	In addition to paying attention to the benefits of the patient, I also consider the benefits of the hospital.	0.40	0.34			
Holistic vision	During the care of the patient (dispatch for paraclinical tests, counseling, etc.), I will follow the patient's condition and outcome.	0.69	0.47	3.94	1.44	a (95%) = 0.69
	In the care of the patient, I consider all aspects (such as attention to mental and psychological and individual and cultural characteristics, etc.).	0.56	0.32			ICC = 0.70 (0.36-0.88)
	Every task that is given to me is done carefully and on the basis of scientific principles.	0.54	0.41			
	In the work environment, I also carry out my professional duties, in unfavorable conditions (such as shortages of personnel, large numbers of patients, lack of equipment, etc.).	0.37	0.45			
Favorable relationship	With the patient's companion, I establish a sympathetic and respectful relationship with pleasure.	0.75	0.29	2.76	1.16	a (95%) = 0.90
	I establish a sympatric and respectful relation to my patient with kindness	0.75	0.33			ICC = 0.90 (0.79-0.96)
	I feel responsible for the matters relating to my patients (physical and psychological issues, etc.)	0.49	0.46			

* CI: Confidence Interval; **ICC: Interclass Correlation

compliance with human rights principles, etc. For nurses, in addition to all characteristics mentioned above, considering all aspects such as attention to mental, psychological, individual, and cultural characteristics of any patient, following up with the patient's condition and outcome after discharging from hospital, doing every task carefully and on the basis of scientific principles, etc. are crucial.

The other difference between other studies with ours was that in this study the validity and reliability of the current tool were performed using statistical methods. In Hassanian's study,[8] validity was done by opinions of a panel of experts and reliability was performed by a pilot study and it was 0.86 using alpha Cronbach. In our study, the validity was done by face, content, and construct validity. Construct validity is one of the most central concepts in psychology. Researchers generally establish the construct validity of a measure by correlating it with a number of other measures and arguing from the pattern of correlations that the measure is associated with these variables in theoretically predictable ways.[27] Thus, it can be said that this tool with acceptable validity and reliability has taken into account the conditions of nurses and hospitals in Iran as well and can be an appropriate means for monitoring social responsibility at different stages of clinical treatment and research related to the perception and culture of Iranian society. Some limitations of this study were that most of the nurses participating in this study were from Tehran where the facilities in the hospitals are much better than other small cities all over Iran and maybe have a more social responsibility in their duties. So, it is suggested to do more research to detect obstacles of being socially responsible in nursing professionals and eventually to overcome these obstacles and achieving much better quality in providing nursing care to patients.

Conclusion

In summary, the nurse's social responsibility tool is a valid and reliable measurement tool for assessing social responsibility among nurses. The researchers focused on designing and psychometric evaluation of nursing social responsibility tools based on nurses' opinions and prepared a native, valid and reliable tool with 23 items, which seems to be an appropriate tool for measuring the social responsibility of nurses. Therefore, the Persian version of the nurse's social responsibility takes into account the context of the nursing profession in Iran.

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Conflicts of interest

Nothing to declare.

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