Original Article

Development and Validation of the Social Responsibility Questionnaire for Iranian Nurses

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Background: Assessment of nurses' social responsibility is necessary for improving their social responsibility and accountability. Valid and reliable culturally appropriate instruments are needed for such an assessment. Objectives: This study aimed to develop and validate the Nurse Social Responsibility Questionnaire (NSRQ) for Iranian nurses. Methods: This methodological study was conducted in a qualitative and a quantitative phase. In the qualitative phase, the concept of social responsibility was explored using a grounded theory study and the item pool of NSRQ was generated. In the quantitative phase, the psychometric properties of the questionnaire (namely face, content, and construct validity and reliability) were evaluated. Results: Exploratory factor analysis revealed that NSRQ consisted of four factors which were labeled ethical commitment, clinical care management, professional competence, and divine satisfaction. The Cronbach's alpha and the test–retest intraclass correlation coefficients of NSRQ were 0.92 and 0.95, respectively. Conclusion: The 27-item NSRQ is a valid and reliable instrument for social responsibility measurement among nurses.

KEYWORDS: Nurse, Questionnaire, Self-report, Social responsibility, Validation

Introduction

Social responsibility (SR) is a key concept in professional nursing which directly relates to the values of professional nursing. Frey states that nurses have a common responsibility for the development of individual and community health. According to Spitzer, SR is the essence of nursing leadership and entails the commitment of nurses, either staff nurses or nursing leaders, to their communities. She also notes that SR and emergency service provision to communities are the core of nurses' professional practice. Accordingly, nurses need to be aware of their SRs and develop their social commitment.

The results of our literature search showed that there are few studies on SR in the area of global nursing.^[1,4,5] Moreover, studies on SR among nurses reported contradictory results about dimensions and examples of SR and failed to address some aspects of SR such as ethical principles and commitment to the belief principles etc.^[6,7] In addition, the results of these studies are context specific. Therefore, studies on SR

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in different contexts are needed to determine nurses' adherence to their SRs. Valid and reliable questionnaires are needed for such studies.

There are several SR-related questionnaires. Most of these questionnaires are appropriate for the assessment of SR among the general public and also among the staff of professions other than nursing. Most of these questionnaires are not appropriate for SR assessment among nurses due to the unique conditions of nurses' work and workplace. In addition, most of them were developed based on the results of literature reviews and viewpoints. Experts highlighted the importance of developing instruments based on the experiences of the target population. Desides, most of the existing

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SR-related questionnaires were developed in Western countries and may provide no reliable data about Iranian nurses' SR even in case of accurate translation and cross-cultural adaptation. [12,13] The present study was conducted to address these gaps by developing a nursing-specific SR questionnaire for Iranian nurses.

Objectives

This study aimed to develop and validate the Nurse SR Questionnaire (NSRQ) for Iranian nurses.

METHODS Design

This methodological study was conducted in a qualitative and a quantitative phase. In the qualitative phase, the concept of SR among nurses was analyzed through a grounded theory study, and in the quantitative phase, a methodological study was conducted for NSRQ validation.

The qualitative phase

In this phase, the Strauss and Corbin's grounded theory method^[14] was used to determine the definitions and the dimensions of the concept of nurses' SR. Participants were 19 nurses purposively and theoretically recruited from health-care centers affiliated to Shiraz and Jahrom Universities of Medical Sciences, Shiraz and Jahrom, Iran. Inclusion criteria were a work experience of more than 1 year in nursing, the ability to share personal experiences, and willingness to participate in the study. The exclusion criterion was a refusal to stay in the study during data collection.

Data collection was done through in-depth semi-structured face-to-face interviews held at participants' preferred place which was mainly their workplace. The duration of each interview varied from 45 to 60 min. Interviews were conducted by the first author and started and continued using open-ended questions. Data collection was continued up to data saturation and the full development of the intended theory. Besides interviews, the existing SR-related questionnaires were retrieved and evaluated for item generation.

Data were analyzed concurrently with data collection through constant comparison and the three main steps, namely open, axial, and selective coding. [14] Initially, each interview transcript was read several times to obtain a general understanding about its whole content. Then, meaning units were identified and coded and the generated codes were constantly compared and revised. In axial coding, the generated codes were categorized based on their similarities and differences. Consequently, the main dimensions of nurses' SR were identified and used for the generation of NSRQ items.

The quantitative phase

In this phase, we evaluated the psychometric properties of NSRQ, namely face, content, and construct validity, as well as reliability.

Face validity

The face validity of NSRQ was evaluated using qualitative and quantitative methods. In qualitative face validity assessment, ten nurses were invited to give comments on the difficulty, ambiguity, and appropriateness of NSRQ items. In quantitative face validity assessment, the importance of each item was evaluated on a Likert scale with five points, namely "Absolutely important" (scored 5), "Somewhat important" (scored 4), "Moderately important" (scored 3), "Mildly important" (scored 2), and "Not important" (scored 1). Then, the impact score was calculated for each item and items with impact scores more than 1.5 were considered appropriate. [15]

Content validity

The content validity of NSRQ was assessed both qualitatively and quantitatively. In qualitative content validity assessment, several experts commented on the grammar, placement, wording, and scoring of NSRQ items. In quantitative content validity assessment, content validity ratio (CVR) and content validity index (CVI) were calculated. For CVR calculation, nine experts in instrument development and nursing were asked to rate items on the following 3-point scale: "Essential" (scored 3), "Useful but not essential" (scored 2), and "Not essential" (scored 1). According to the Lawshe's table of CVR critical values, [16] items with CVR values more than 0.77 were considered appropriate. For CVI calculation, experts commented on the relevance of NSRQ items on the following 4-point scale: "Irrelevant" (scored 1), "Slightly relevant" (scored 2), "Somewhat relevant" (scored 3), and "Completely relevant" (scored 4). Based on the Waltz and Basel criteria. [17,18] items with CVI values >0.79 were considered appropriate.

Construct validity

For construct validity assessment, five nurses per NSRQ item were nonrandomly recruited from private and public hospitals in Iran to complete the questionnaire. [19] Then, construct validity assessment was performed through exploratory factor analysis (EFA). In EFA, Kaiser-Meyer-Olkin test was used to check sampling adequacy, Bartlett's test was used to check factor analysis model appropriateness, principal component analysis with varimax rotation was used for factor extraction, and eigenvalues and scree plot were used to determine the number of factors. [19,20]

Eigenvalues >1 and factor loading values equal to or >0.5 were considered acceptable.

Reliability

NSRQ reliability was assessed through the internal consistency and the stability assessment methods. For internal consistency assessment, twenty nurses completed the questionnaire and their data were used to calculate Cronbach's alpha. A Cronbach's alpha of >0.7 was interpreted as acceptable internal consistency. [21] For test—retest stability assessment, twenty nurses completed the questionnaire twice with a 3-week interval [22] and their data were used to calculate test—retest intraclass correlation coefficient.

Statistical analysis

All statistical analyses were carried out using the SPSS program (version 16, IBM Company, Chicago, United States). Normal distribution of the data was evaluated through the Kolmogorov–Smirnov test. EFA was done for factor extraction and Cronbach's alpha and intraclass correlation coefficients were calculated for reliability assessment.

Ethical considerations

This study was approved by the Ethics Committee of Jahrom University of Medical Sciences, Jahrom, Iran (code: IR. JUMS. REC.1396.010). Verbal and written informed consents were obtained from all participants, and they were ensured of the confidential management of their data, anonymity, privacy, and voluntary participation. Furthermore, the participants were informed of the research purposes.

RESULTS

The results of the qualitative phase

SR was determined to be a multidimensional concept with subjective and objective aspects. In total, 84 items for NSRQ were generated and included in five main SR dimensions, namely acquiring divine satisfaction (14 items), achieving professional competence (20 items), management of clinical care (16 items), ethical commitment (17 items), and personality traits (17 items). Further revisions of the items reduced item number to 78, and six items were excluded due to their overlapping. Item scoring was performed on a 5-point scale with the following points: "Very lowly," "Lowly," "Moderately," "Highly," and "Very highly."

The results of the quantitative phase

In the quantitative phase, the psychometric properties of the 78-item NSRQ were assessed.

Face validity

In qualitative face validity assessment, five items were revised based on nurses' comments. For example, the item "I strive to preserve the values of the nursing profession" was revised to "I preserve the values of the nursing profession." In quantitative face validity assessment, ten items were deleted due to item impact scores <1.5.

Content validity

In qualitative content validity assessment, none of the items were removed, but some of them were revised based on the experts' comments. For example, the item "Clients are respected" was revised to "I respect patients." In quantitative content validity assessment, 19 items were removed due to CVR values <0.77 and nine items were removed due to CVI values <0.79. [17,18] The average scale-level CVI (Ave) of NSRQ was 0.91.

Construct validity

The 40-item NSRQ was completed by nurses [Table 1]. The Kaiser-Meyer-Olkin test value was 0.872 and the Bartlett's test showed a significant correlation among items (P = 0.001). In EFA, four factors with eigenvalues >1 were extracted. Principal component analysis with a varimax rotation also showed that NSRQ had a four-factor structure. Thirteen items were removed due to factor loading values <0.5, and hence, the number of NSRO items reduced to 27. The four extracted factors of NSRO were labeled ethical commitment (nine items), clinical care management (eight items), professional competence (seven items), and divine satisfaction (three items). These four factors accounted for 49.59% of the total variance of NSRQ total score. The amount of the variance explained by each of the four factors of NSRQ was 18%, 14%, 10.495%, and 7.20%,

Table 1: Demographic characteristics of the participants in the quantitative section (*n*=200)

Characteristics	n (%)
Age (years), mean ± SD	32.9 ± 31.3
Work history (years), mean \pm SD	6.4 ± 6.1
Gender	
Male	75 (37.5)
Female	125 (62.5)
Educational status	
Bachelor	172 (86)
Master of Sciences	28 (14)
Type of ward	
Medical	82 (41)
Surgical	63 (31.5)
Women's/maternity	15 (7.5)
Pediatrics	16 (8)
Emergency	12 (6)
Intensive care	12 (6)
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SD: Standard deviation

Table 2: The eigenvalues of Nurse Social Responsibility Questionnaire items and the percentage of the variance explained by the Nurse Social Responsibility Questionnaire dimensions

Items	Factors			
	1	2	3	4
I am committed to adhere to the principles of ethical practice (code of ethics) in providing	0.864a			
care to clients				
I respect patients	0.674^{a}			
I establish good relationships with patients and their companions	0.731^{a}			
I have good relationships with my colleagues	0.832^{a}			
I provide nursing care with interest and affability	0.634^{a}			
I keep patients' secrets	0.755a			
I always give hope to patients	0.478			
I fully support the rights of patients and colleagues	0.376			
I attempt to go after and answer patients' questions	0.601a			
I make optimal use of organizational and health-care resources for service delivery	0.802^{a}			
I attempt to gain patient satisfaction	0.788^{a}			
I am punctual	0.365			
I am committed to the organization	0.401			
I provide clinical care with complete knowledge		0.701a		
I attempt to provide care to clients based on the standards		0.732^{a}		
I prefer the interests of patients and the organization over my personal interests		0.643a		
I always practice with my whole power		0.498		
I consider patients' preferences in care provision		0.389		
I adhere to safety principles in providing care to patients		0.654^{a}		
I attempt to follow patients' problems until they are fully resolved		0.790^{a}		
I try to create a safe and calm environment for patients		0.770^{a}		
To the best of my ability, I meet public health needs, especially for at-risk groups		0.347		
I hold myself responsible for doing right clinical care		0.712a		
I attempt to interact with my colleagues and help them		0.355		
I do not bring my personal problems to my workplace and organization		0.745a		
I will take care of patients' wishes as quickly as possible		0.449		
I participate in in-service educational programs to improve patient care			0.766a	
To help the nursing profession, I attempt to work in professional policymaking groups			0.777^{a}	
I value the improvement of my professional knowledge and competence			0.404	
I preserve the values of the nursing profession			0.780^{a}	
I attempt to evaluate my professional performance			0.754a	
I have adequate knowledge about my professional responsibilities			0.440	
I value teamwork to improve the quality of nursing care			0.398	
I participate in professional research activities			0.743ª	
I need to be aware of the cultural diversity of patients to provide them with comprehensive			0.721a	
care			****	
I have adequate motivation to work in the nursing profession			0.690^{a}	
I advocate cultural justice among patients			0.432	
I feel guilty in case of negligence in care delivery				0.689^{a}
I believe in self-sacrifice and devotion in patient care				0.698^{a}
I believe caring for clients is a moral duty				0.654a
Eigenvalue	12.43	3.76	1.85	1.34
Percentage of variance	18	14	10.495	7.200
Alterna remained in the final scale				= 0 0

^aItems remained in the final scale

respectively [Table 2]. The scree plot also confirmed the four-factor structure of NSRQ [Figure 1].

Reliability

The Cronbach's alpha and the test-retest intraclass correlation coefficients of the 27-item NSRQ were 0.92 and 0.95, respectively. The Cronbach alpha coefficient

and intraclass correlation coefficient for the four factors are also presented separately in Table 3.

DISCUSSION

This study was conducted to develop and validate NSRQ. The final questionnaire had 27

Table 3: The Cronbach's alpha and the intraclass correlation coefficient values of the Nurse Social Responsibility							
Ouestionnaire scale							

Factors	Subscales	Number of items	Internal consistency (α)	Stability (ICC)
1	Ethical commitment	9	0.87	0.90
2	Clinical care management	8	0.87	0.90
3	Professional competence	7	0.82	0.85
4	Divine satisfaction	3	0.79	0.81
	NSRQ	27	0.92	0.95

ICC: Intraclass correlation coefficient, NSRQ: Nurse Social Responsibility Questionnaire

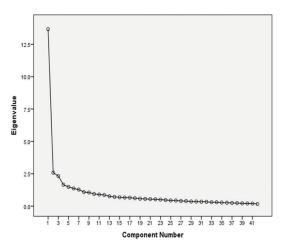


Figure 1: The scree plot

items in four main dimensions, namely ethical commitment, clinical care management, professional competence, and divine satisfaction. NSRQ has acceptable validity and reliability with a Cronbach's alpha of 0.92 and a test–retest intraclass correlation coefficient of 0.95.

The first dimension of NSRQ was ethical commitment. This dimension included the biggest number of items (nine items), indicating the importance of adherence to ethical principles among nurses. The items of the ethical commitment dimension are based on the moral obligations of nursing practice. Therefore, this dimension highlights that ethical commitment is the most important aspect of SR in nursing. Nursing is an ethical practice, professional ethics are inherent in the profession,^[23] and professional and ethical performance is considered as the most important responsibility of nurses.^[24] Respect for human rights and commitment to ethical practice are considered as the key components of nursing,^[25] and thereby, the extraction of the ethical commitment dimension from NSRQ is justified.^[26]

Management of clinical care was the second dimension of NSRQ. This dimension had eight items. Participants considered the management of clinical care as nurses' accountability to patients. Nurses need to be accountable to their patients due to their pivotal roles in health-care systems. Therefore, nurses' accountability can be considered as their management of clinical care. Nurses' SR can lead to the delivery of more comprehensive clinical care to patients. Thus, nursing managers should strive to promote the nurses' accountability to improve nursing care quality and clinical care management. [27] In line with our findings, a former study showed that nurses' SR was equivalent to the provision of nursing care services such as clinical care, social justice advocacy, and community knowledge consultation. [28]

The third dimension of NSRQ was professional competence and had seven items. Participants considered clinical competence as a requirement for SR and a key characteristic of socially responsible nurses. Previous studies also reported the same findings and considered professional competence as a professional value of nurses. [29,30] To provide quality care in their humanitarian missions, nurses need to have professional characteristics, skills, and abilities such as clinical experience, ability to provide care to patients of all ages, ability to resolve conflicts, and ability to employ individuals in appropriate positions for which they have been trained.[31,32] Another study introduced four main competencies for nurses, namely technical competence, critical thinking, organizational thinking, and communication skills.[33]

The fourth dimension of NSRO was divine satisfaction and consisted of three items. Our participants considered that the most important outcome of their services is divine satisfaction, implying that performing nursing tasks and helping others are religious duties. They also equated professional accountability with working for God. As they believed that God observes and rewards all things, they considered divine satisfaction as the ultimate goal of nursing care. An explanation for these findings is the fact that religious beliefs have significant effects on Iranians' and Muslims' thoughts, behaviors, [30,34] culture, and life. [35] A study reported that the patient's satisfaction is not separate from God's satisfaction, and therefore, patient care is actually a service to God.[36] Nursing participants in another study also sought job satisfaction in patient and divine satisfaction.[37]

One of the strengths of the present study was the assessment of the most important psychometric properties of NSRQ. Moreover, the questionnaire has a limited number of items and its completion takes a short amount of time. Future studies are recommended to evaluate the construct validity of NSRQ through confirmatory factor analysis on the data collected from a larger sample of nurses. Moreover, the NSRQ is a self-report questionnaire that might expose the studies to social desirability bias.

CONCLUSION

This study suggests that NSRQ is a valid and reliable questionnaire for SR assessment among nurses. Health-care managers can use this questionnaire to periodically review nurses' SR, develop interventions for its promotion, and thereby, improve nursing care quality.

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Conflicts of interest

There are no conflicts of interest.

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