

Scale Development and Psychometrics for Parents' Satisfaction with Developmental Care in Neonatal Intensive Care Unit

How to Cite This Article: Rafiey H, Soleimani F, Torkzahrani Sh, Salavati M, NASIRI M. Scale Development and Psychometrics for Parents' Satisfaction with Developmental Care in Neonatal Intensive Care Unit. *Iran J Child Neurol.* Autumn 2016; 10(4):16-24.

Hassan RAFIEY MD MPH¹,
Farin SOLEIMANI MD²,
Shahnaz TORKZAHRAANI M.Sc²,
Mahyar SALAVATI PhD³,
Malihe NASIRI PhD^{4,5}

1. Social Welfare Management
Research Center, University of Social
Welfare and Rehabilitation Sciences,
Tehran, Iran

2. Pediatric Neurorehabilitation
Research Center, University of Social
Welfare and Rehabilitation Sciences,
Tehran, Iran

3. Physical Therapy Department,
University of Social Welfare and
Rehabilitation Sciences, Tehran, Iran

4. Department of Biostatistics, Faculty
of Paramedical Sciences, Shahid
Beheshti University of Medical
Sciences, Tehran, Iran

5. Department of Biostatistics, School
of Nursing and Midwifery, Shahid
Beheshti University of Medical
Sciences, Tehran, Iran

Corresponding Author:
Torkzahrani, Sh. MSc
Kodakyar St, Daneshjo Blvd, Evin,
Tehran, Iran,
Post code: 1988713831
Tel: + 98 (21)221 800 99
Email: zahranishahnaz@yahoo.com

Received: 1-Nov-2015
Last Revised: 26-Dec-2015
Accepted: 17-Jan-2016

Abstract

Objective

Developmental care comprises a wide range of medical and nursing interventions used in the neonatal intensive care unit (NICU) to mitigate and reduce stressors affecting preterm or ill neonates. Because patient satisfaction survey is a valuable quality improvement tool, we aimed to develop and test the psychometric properties of a tool for measuring parent satisfaction of developmental care in the NICU.

Materials & Methods

In this psychometric methodological study, the item pool and initial questionnaire were designed based on a comprehensive literature review and exploring NICU parent satisfaction questionnaires. The validity of the designed questionnaire was determined using face, content (qualitative and quantitative), and construct validity. Exploratory factor analysis was performed using responses from 400 parents of infants hospitalized in the NICUs of 34 hospitals in 2015 in Tehran, Iran. The reliability of the questionnaire was identified using Cronbach's alpha and stability measures.

Results

The initial questionnaire was designed with 72 items in five domains. After testing the face validity, 3 items were omitted. The results of validity testing were acceptable. The exploratory factor analysis was performed on 69 items, and 5 factors (care and treatment with 20 items, information with 15 items, hospital facilities with 9 items, parental education with 7 items, and parental participation with 8 items) were extracted. The reliability was supported by high internal consistency ($\alpha = 0.92$).

Conclusion

This questionnaire could be valid and reliable tool for measuring parents' satisfaction.

Keywords: Parents' satisfaction, Developmental care; Psychometrics; Neonatal Intensive Care Unit (NICU); Assessment; Validity; Reliability

Introduction

Patient satisfaction has become a widely accepted measure to assess the quality of healthcare in the past decade (1). Patient satisfaction has been defined as an individual's appraisal of healthcare services received and their assessment of the service providers (2). Parental satisfaction of parents with the hospitalizations of

infants in the neonatal intensive care unit (NICU) is crucial because they are disturbed by the appearance and behavior of their immature or sick baby and by the alterations in their parental caregiving roles (3, 4).

Over the past years, the culture of NICU has shifted from a profession-centered to a developmental- and family-centered approach, which could improve the parents' perceived support and satisfaction (5, 6). In the developmental caregiving environment of the NICU, parents are encouraged to spend more time with their infants and to participate actively in their care (7). Recent literature supports this integration of developmental care into practice in the NICU (8). Developmental care includes a wide range of medical and nursing interventions used in the NICU to treat and reduce stressors that affect physiological and behavioral functioning of preterm or ill neonates. The control of environmental stressors such as high light and sound levels, minimal handling, and the reduction of painful events, applying non-nutritive sucking, support, and involvement of the mother and family in the care of neonates are some of the developmental care elements in the NICU (9, 10). The aim of developmental care is to conserve the infant's energy for growth, physiological stability, and recovery from illness (11). Developmental care practices can reduce medical and neurodevelopmental sequelae, improve preterm infants' behavioral and developmental outcomes, and enhance mother-child interactions (12, 13).

Achievement of developmental care intervention goals mostly depends on the involvement of the infant's mother and family in the intervention program (14). Because family involvement has the significant influence on infant's health conditions, it is the primary element in developmental care (15, 16). Since most components of developmental care are family-centered, families could be expected to be more satisfied with this kind of care (6). However, questions related to whether parents are actually satisfied by this care approach and how caregivers can improve their care, must be answered.

A few previous tools have been designed to assess parents' satisfaction with the NICU in particular: the Neonatal Index of Parent Satisfaction (NIPS), a checklist with 30 items in one domain of medical care(17); the

Parent Satisfaction Form (PSF), a questionnaire with 51 items within two domains of medical care and nursing care (18); Infants' Parents' Satisfaction, Hospitalized in NICU with 49 questions across three domains of welfare services, nursing care, and medical care (19); and the Empowerment of Parents in the Intensive Care-Neonatology (EMPATHIC-N) questionnaire with 57 questions across five domains including information, care and treatment, organization, parental participation, and professional attitude (20). The objective of this study was to design a scale to measure satisfaction with developmental cares of parents whose infants were hospitalized in NICU. Two important aspects were considered in the design of the questionnaire. The first was the specificity of the scale for evaluating satisfaction of parents in the NICU and the second was covering all aspects of health services provided to neonates and their family in the NICU in the context of the Iranian culture.

Material & Methods

In this study, designing of the scale was conducted in two major phases.

Instrument development phase

For designing the instrument, a comprehensive literature review was conducted. Databases such as PubMed, EMBASE, Google Scholar, Scopus, and Iranian databases including SID and Iranmedex were researched.

All tools measuring parents' satisfaction as well as the factors associated with parents' satisfaction and expectations for neonatal care were considered. After that, according to linguistic and cultural aspects of Iran, appropriate items for the instrument were developed. The rating scale was a 6-point Likert-type scale, from 1, denoting the least satisfaction to 6, denoting the greatest satisfaction.

Instrument evaluation phase

In this phase, first, the validity of the designed questionnaire was specified using face, content and construct validity; then, the reliability of the questionnaire was examined using internal consistency and stability.

Face validity

The two forms of face validity in an instrument as qualitative and quantitative were used in this study. In order to assess the face validity qualitatively, ten parents of babies admitted into the NICU stated their views about difficulties understanding statements and words in the questionnaire. Based on the parents' views, items were corrected. In the next step, the quantitative form of face validity was calculated using the item score impact. Previous ten parents and five experts (two midwives, two nurses, and one physician) were asked to score each item within a 5-point Likert scale (1 meaning "Not important at all" through 5 meaning "quite important"). Items with impact scores of less than 1.5 were omitted from questionnaire (21).

Content Validity

Content validity is determined using either quantitative or qualitative techniques. In this study, qualitative content validity was determined by experts' judgment based on the wording, grammar, and item allocation of the questionnaire (22). For quantitative content validity, both the content validity ratio (CVR), and the content validity index (CVI) were used. The CVI can be determined based on three criteria: simplicity, specificity, and clarity. These criteria have been considered using a 4-part Likert-type scale from 1 denoting "not relevant, not simple, and not clear" to 4 denoting "very relevant, very simple, and very clear" (23). To calculate the CVI, 10 experts rated each item based on this 4-point Likert-type scale. The CVI was calculated as the proportion of items rated 3 or 4 by the experts. Items' CVI scores larger than 0.79 was considered appropriate; between 0.7 and 0.79 were considered questionable and required revision; and lower than 0.7 had to be removed (24). To calculate the CVR, the 10 specialists were asked to rate each item of the questionnaire based on a 3-point Likert scale, where 1 denoted as "necessary," 2 as "useful but not necessary, and 3 as "not necessary." Based on the corresponding value in Lawshe's table for 10 experts, items with CVR scores larger than 0.62 were accepted and remained in the questionnaire (25).

Construct Validity

Exploratory factor analysis (EFA) was performed to evaluate construct validity. Factor analysis is a useful analytical tool that can determine the underlying constructs of the questionnaire (26). Exploratory factor analysis methods with principal components analysis and varimax rotation were applied to explore the factor structure of the questionnaire, and factor loading equal to or greater than 0.4 was considered acceptable.

Reliability

Internal consistency and the stability measures are two methods of determining questionnaire's reliability. In this study, the Cronbach's alpha coefficient was calculated to define the internal consistency of the questionnaire. Cronbach's alpha is a popular method for testing internal consistency (27). Thirty parents of infants hospitalized in the NICU filled out the questionnaire and Cronbach's alpha was determined. A Cronbach's alpha measure equal to or greater than 0.70 was considered acceptable for internal consistency. For assessing the stability of the questionnaire, the test-retest method was used. Test-retest reliability was assessed by administering the questionnaire to 20 parents on 2 occasions. First, the questionnaire was completed by parents at discharge time and one week later while waiting for their baby's clinic visit. Then, the scores obtained from each occasion were compared using Pearson's correlation coefficient. A correlation coefficient higher than 0.70, was considered acceptable.

Sample size

A sample size of 5–10 subjects per item was considered appropriate for scale development studies (27). However, a sample size of 200 is considered large enough for ordinary factor analysis for instruments that contain around 40 items (28). According to the questionnaire having 72 items in 5 domains, a sample size of 400 parents was determined to be appropriate (considering 10% attrition). Participants were recruited through convenient sampling.

Participants

Eligible study participants were defined as parents whose baby was hospitalized for at least 3 days in the

NICU. Their babies had no congenital malformations or surgical procedures. Parents were recruited from 34 type III NICUs located in private, social security, and teaching hospitals in Tehran, Iran. The questionnaire was completed by parents at their infant's discharge time from hospital.

This study was approved by the ethical review board of the Welfare and Rehabilitation Sciences University and Pediatric Neurorehabilitation Research Center with

the code number of SWR.REC.1393.151 in Tehran, Iran. Signed parental consent forms were required and collected.

Results

Overall, 400 parents of infants hospitalized in NICU participated. The mean age of the participants was 25.5 ± 3.8 yr (Table 1).

Table1. Characteristics of parents of infants hospitalized in NICU in different hospitals of Tehran, Iran

Characteristics	Groups	Frequency	Percent (%)
Age (yr)	<20	10	2.8
	21-30	203	54.67
	31-40	148	40.9
	>41	7	1.45
Level of education	Illiteracy	7	1.9
	middle & High school	44	11.7
	Diploma	164	43.9
	University	159	42.5
Occupational status	Housewife	297	80.7
	Employed (inside house)	12	3.4
	Employed (outside house)	57	15.7
Numbers of pregnancy	1	172	52.9
	2-3	145	44.6
	4 and more	8	2.5

After a comprehensive reviewing of the literature and at the end of "instrument development phase", an initial questionnaire was prepared with 72 items across 5 domains, including: information (14 items), care and treatment (16 items), parental participation and training (16 items), organization (11 items), attitude toward medical personnel (15 items).

Face Validity: Based on the qualitative face validity assessment, changes were made to the content of some items of initial questionnaire. The results of the quantitative face validity assessment showed that the impact scores for three items was less than 1.5, so those items were deleted. Therefore, the number of items was

reduced to 69 in the questionnaire.

Content validation: The result of the qualitative content validity assessment led to modifications of some items of initial questionnaire. In the assessment of quantitative content validation, the CVR and CVI of all items were in the range of 0.68–1, and 0.87–1 respectively. Therefore, no items were omitted.

Construct validity: The exploratory factor analysis (EFA) was performed on 69 items of initial questionnaire using principal components. The Kaiser–Meyer–Olkin (KMO) and Bartlett's tests illustrated that the data was acceptable for factor analysis (KMO index = 0.961, $\chi^2 = 2.482E4$, $df = 2346$, $P < 0.001$).

Five factors were extracted by using Kaiser Criterion and unrotated factors (Eigenvalue > 1). Screen plot for determining number of the factors and Eigenvalue are shown in Figure 1. This method explained 60.281% of the scale's variance. The final questionnaire with 59 items in five domains: care and treatment, information,

hospital facilities, parental participation and parental education was obtained from factor analyses. The structure of factors, their loading, and percentages of variance explained by each factor, and the number of items, are depicted in Table 2.

Screen Plot

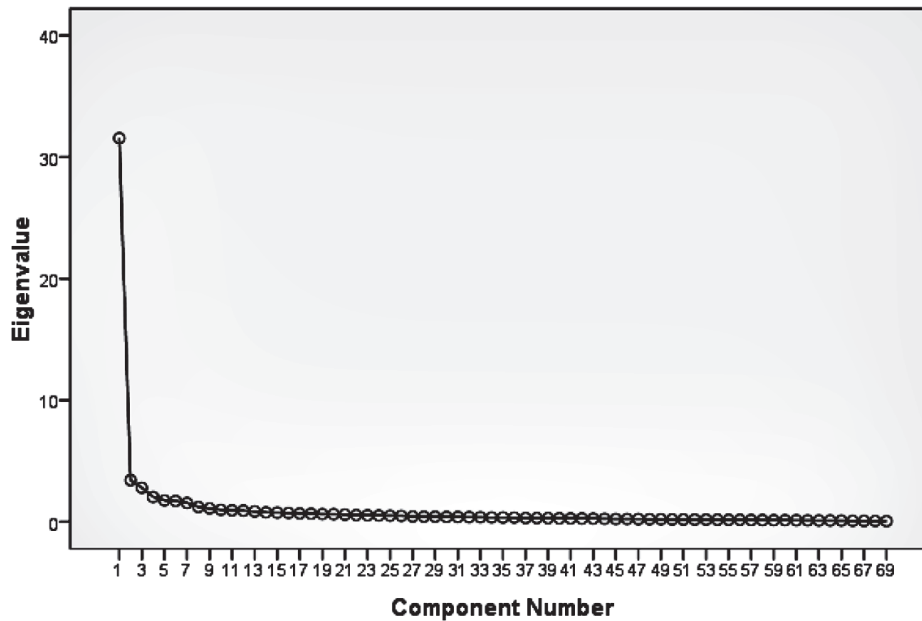


Fig 1. Screen plot and Eigenvalue of exploratory factor analysis

Table 2. Exploratory Factor Analysis and Reliability Testing Results

Component	Name of each domain	Number of items	Rotation Sums of Squared Loadings			test-retest ICC*)	Internal reliability Cronbach's α
			Total	% of Variance	Cumulative %		
Factor 1	care and treatment	20	10.396	15.067	15.067	0.91	0.97
Factor 2	information	15	9.924	14.383	29.450	0.91	0.94
Factor 3	hospital Facilities	9	9.508	13.780	43.230	0.85	0.90
Factor 4	Parental Education	7	7.619	11.042	54.272	0.80	0.88
Factor 5	parental participation	8	4.146	6.009	60.281	0.86	0.92
		Total= 59				Total = 0.86	Total = 0.92

*ICC = Intra-class Correlation Coefficient

Reliability: The reliability of the questionnaire was determined by internal consistency and stability. Cronbach's α and intraclass correlation of test-retest reliability for each domain and total of final questionnaire are shown in Table 2.

Discussion

We examined the psychometric properties of a questionnaire designed to study parent's satisfaction with developmental care in NICU. Patient satisfaction is one of the most important indicators for measuring the quality of health care services (1). It has been defined as an individual's appraisal and assessment of delivered health care services, the consumer's personal preferences and expectations (2) and health care recipient's cognitive evaluation (29). "Patient satisfaction is generally defined as a degree of congruency between patient expectations of ideal care and their perceptions of the actual care received" (30). Standardized questionnaires have been commonly used as an assessment tool for conducting patient satisfaction studies (32). Patient satisfaction questionnaires mostly emphasize specific dimensions of care such as information and communication, coordination of care, respect of patient preferences, family participation, and continuity and transition (33).

In this study, the NICU parent's satisfaction questionnaire (NPSQ) was developed, containing 59 items with five domains. The NPSQ tries to evaluate parents' satisfaction with the different aspects of developmental care. Items in the NPSQ were developed from a comprehensive review of literature, along with existing tools, and based on expert ratings; the content validity of the questionnaire was acceptable. The reliability of the questionnaire was also confirmed by high Cronbach's alpha and Intra-class Correlation Coefficient.

Based on factor analysis, the first dimension of questionnaire was "care and treatment" with 20 items. This dimension encompasses treatment, emotional support and paid attention to family and infant's needs. Nursing care was the most significant determinant of overall patient satisfaction (34). Some of the extant questionnaires such as the Neonatal Index of Parent's Satisfaction (NIPS) have not considered nursing care

for evaluating of parental satisfaction in the NICU (17). In the EMPATHIC-N questionnaire developed by Latour, both nursing care and physician care were assessed in the same items (e.g., "The doctors and nurses responded well to our own needs") (20). In the present study, the NPSQ considered nursing care separately from medical care; for example, distinct items contained the statements, "Doctors were responsive to our needs," And "Nurses were responsive to our needs." Because the patient satisfaction questionnaire has been considered a significant quality improvement tool, detailed descriptions of the different elements of satisfaction could be beneficial. In a study, nursing and medical care were also evaluated separately (19).

The second dimension of questionnaire was "information" with 15 items. Providing information, explanations of medical details, and updates on the infant's condition to the family, and giving supportive communication to them are very important elements of parental satisfaction as well as developmental care. Information was one of the 13 subcategories of the Neonatal Satisfaction Survey and confirmed by factor analysis (35).

The third dimension of questionnaire was "hospital facility" with 9 items. Hospital facilities, including cleanliness, up-to-date technology and equipment, and good physical condition are well-known predictive factors of patient satisfaction (36). The implementation of developmental care in NICU includes the reduction of noise and light and providing an environment similar to intrauterine conditions (10); therefore, hospital facilities play a very important role in these regards.

"Parental participation" was the fourth dimension with 8 items. Because this study tried to assess essential dimensions of developmental care, aspects such as the involvement of families in care is very important. The involvement of parents in the care of the child and in decision-making processes has been considered globally and need to be integrated into satisfaction surveys (37). About 64% of parents preferred to get involved in care of their baby regardless of his or her condition or weight at birth (38).

"Parental education" was a final dimension of questionnaire with 7 items. Parental education is an essential part of a family-integrated approach in the

NICU (39). Parents' education provided in the NICU can improve the baby's developmental abilities, and diminish parents' anxiety (40). In this study, due to its emphasis on developmental care components, special attention was paid to parental education and a single subscale has been allocated to it through factor analysis. The questionnaire designed in the present study tried to consider the implementation of developmental care as a core element for exploring parents' satisfaction as well as providing a tool that contained adequate items and good psychometric properties. Due to the influence of cultural and social factors on satisfaction, Iranian culture was considered while developing the questionnaire.

However, one limitation of this study was the inability to compare this questionnaire with similar valid and reliable instruments on a national level while designing the tool.

In conclusion, the NICU parent's satisfaction questionnaire is a valid and reliable scale for measuring parents' satisfaction with developmental care in neonatal intensive care unit. The important strengths of this questionnaire include being able to evaluate parental satisfaction with all major aspects of developmental care in the NICU as well as providing an Iranian cultural context while evaluating parents' satisfaction.

Acknowledgments

This research is derived from a PhD thesis in specialized Pediatric Neurorehabilitation research. The authors are grateful to the all the hospitalized infants' parents and specialists who participated in the study and provided their valuable opinions. This study was supported by grant No 8821 from university of social welfare & rehabilitation sciences.

Author's Contribution

F. Soleimani, was the main investigator, designed the study, and reviewed the manuscript.

Sh. Torkzahrani was the main investigator, designed the study, collected the data and wrote the first draft.

H. Rafeiy, was designed the study and supervisor.

M. Salavati, Mahyar was the study supervisor.

M. Nasiri, contributed to the statistics and was the

study supervisor.

All authors agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Conflict of Interest: Non- declared

References

1. Prakash B. Patient satisfaction. *J Cutan Aesthet Surg* 2010;3(3):151-5.
2. Ware JE, Snyder MK, Wright WR, Davies AR. Defining and measuring patient satisfaction with medical care. *Eval Program Plann* 1983;6(3):247-63.
3. Miles MS, Burchinal P, Holditch-Davis D, Brunssen S, Wilson SM. Perceptions of stress, worry, and support in Black and White mothers of hospitalized, medically fragile infants. *J Pediatr Nurs* 2002;17(2):82-8.
4. Pinelli J. Effects of family coping and resources on family adjustment and parental stress in the acute phase of the NICU experience. *Neonatal Netw* 2000;19(6):27-37.
5. Butt ML, McGrath JM, Samra HA, Gupta R. An integrative review of parent satisfaction with care provided in the neonatal intensive care unit. *J Obstet Gynecol Neonatal Nurs* 2013;42(1):105-20.
6. Wielenga JM, Smit BJ, Unk LK. How satisfied are parents supported by nurses with the NIDCAP® model of care for their preterm infant? *J Nurs Care Qual* 2006;21(1):41-8.
7. Gay G, Franck LS. Toward a standard of care for parents of infants in the neonatal intensive care unit. *Crit Care Nurse* 1998;18(5):62.
8. McGrath JM, Samra HA, Kenner C. Family-centered developmental care practices and research: what will the next century bring? *J Perinat Neonatal Nurs* 2011;25(2):165-70.
9. Sizun J, Westrup B. Early developmental care for preterm neonates: a call for more research. *Arch Dis Child Fetal Neonatal Ed* 2004;89(5):F384-F8.
10. Lucas N. Developmental care in the neonatal unit. *Sri Lanka J Child Health* 2015;44(1):45-52.
11. Lester BM, Miller RJ, Hawes K, Salisbury A, Bigsby R, Sullivan MC, et al. Infant neurobehavioral development.

- Semin Perinatol 2011;35(1):8-19.
12. Als H. A synactive model of neonatal behavioral organization: framework for the assessment of neurobehavioral development in the premature infant and for support of infants and parents in the neonatal intensive care environment. *Phys Occup Ther Pediatr* 1986;6(3-4):3-53.
 13. Altmier L, Phillips RM. The Neonatal Integrative Developmental Care Model: Seven Neuroprotective Core Measures for Family-Centered Developmental Care. *Newborn Infant Nurs Rev* 2013;13(1):9-22.
 14. Ramachandran S, Dutta S. Early developmental care interventions of preterm very low birth weight infants. *Indian Pediatrics* 2013;50(8):765-70.
 15. Voos KC, Park N. Implementing an Open Unit Policy in a Neonatal Intensive Care Unit: Nurses' and Parents' Perceptions. *J Perinat Neonatal Nurs* 2014;28(4):313-8.
 16. Johnston CC, Filion F, Campbell-Yeo M, Goulet C, Bell L, McNaughton K, et al. Kangaroo mother care diminishes pain from heel lance in very preterm neonates: a crossover trial. *BMC Pediatr* 2008;8(1):13.
 17. Blackington SM, McLauchlan T. Continuous quality improvement in the neonatal intensive care unit: evaluating parent satisfaction. *J Nurs Care Qual* 1995;9(4):78-85.
 18. Conner JM, Nelson EC. Neonatal intensive care: satisfaction measured from a parent's perspective. *Pediatrics* 1999;103(Supplement E1):336-49.
 19. Salehi Z, Mokhtari Nouri J, Khademolhoseyni SM, Ebadi A. Designing and determining psychometric characteristics of satisfaction measurement questionnaire of the parents' infants, hospitalized in Neonatal Intensive Care Unit. *Iran J Crit Care Nurs* 2014;7(3):176-83.
 20. Latour JM, Duivenvoorden HJ, Tibboe D, Hazelzet Jan A. The shortened Empowerment of Parents in The Intensive Care 30 questionnaire adequately measured parent satisfaction in pediatric intensive care units. *J Clin Epidemiol* 2013;9(66):1045-1050.
 21. Hajizadeh E, & Asghari, M. *Statistical Methods and Analyses in Health and Biosciences, A Research Methodological Approach*. Tehran: University Jahad Publishing Corporation; 2012.
 22. Carolyn Feher Waltz OLS, Elizabeth R. Lenz,. *Measurement in Nursing and Health Research*. fourth ed. USA: Springer Publishing Company, LLC; 2010.
 23. Hyrkäs K, Appelqvist-Schmidlechner K, Oksa L. Validating an instrument for clinical supervision using an expert panel. *Int J Nurs Stud* 2003;40(6):619-25.
 24. Polit DF, Beck CT, Owen SV. Is the CVI an acceptable indicator of content validity? Appraisal and recommendations. *Res Nurs Health* 2007;30(4):459-67.
 25. Lawshe CH. A quantitative approach to content validity1. *Personnel Psychol* 1975;28(4):563-75.
 26. Rattray J, Jones MC. Essential elements of questionnaire design and development. *J Clin Nurs* 2007;16(2):234-43.
 27. Munro BH. *Statistical methods for health care research: Lippincott Williams & Wilkins*; 2005.
 28. DeVellis RF. *Scale Development Theory and Applications*. 2nd ed: Sage Publications, Inc,Thous and Oaks.; 2003.
 29. Pascoe GC. Patient satisfaction in primary health care: a literature review and analysis. *Eval Program Plann* 1983;6(3):185-210.
 30. Ahmad I, Nawaz A, Khan S, Khan H, Rashid MA, Khan MH. Predictors of patient satisfaction. *Gomal J Med Sci* 2012;9(2).
 31. Marley KA, Collier DA, Meyer Goldstein S. The role of clinical and process quality in achieving patient satisfaction in hospitals. *Decision Sci* 2004;35(3):349-69.
 32. Urden LD. Patient satisfaction measurement: current issues and implications. *Prof Case Manag* 2002;7(5):194-200.
 33. Jenkinson C, Coulter A, Bruster S, Richards N, Chandola T. Patients' experiences and satisfaction with health care: results of a questionnaire study of specific aspects of care. *Qual Saf Health Care* 2002;11(4):335-9.
 34. Al-Abri R, Al-Balushi A. Patient satisfaction survey as a tool towards quality improvement. *Oman Med J* 2014;29(1):3-7.
 35. Hagen IH, Vadset TB, Barstad J, Svindseth MF. Development and validation of Neonatal Satisfaction Survey-NSS-13. *Scand J Caring Sci* 2015;29(2):395-406.
 36. Saad Andaleeb S. Determinants of customer satisfaction

- with hospitals: a managerial model. *Int J Health Care Qual Assur* 1998;11(6):181-7.
37. Dunn MS, Reilly MC, Johnston AM, Hoopes RD, Abraham MR. Development and dissemination of potentially better practices for the provision of family-centered care in neonatology: the family-centered care map. *Pediatrics* 2006;118(Supplement 2):S95-S107.
38. Streiner DL, Saigal S, Burrows E, Stoskopf B, Rosenbaum P. Attitudes of parents and health care professionals toward active treatment of extremely premature infants. *Pediatrics* 2001;108(1):152-7.
39. Bracht M, O'Leary L, Lee SK, O'Brien K. Implementing family-integrated care in the NICU: a parent education and support program. *Adv Neonatal Care* 2013;13(2):115-26.
40. Sweeney JK, Heriza CB, Blanchard Y, Dusing SC. Neonatal physical therapy. Part II: Practice frameworks and evidence-based practice guidelines. *Pediatr Phys Ther* 2010;22(1):2-16.