Published online 2017 January 11.

Research Article

Development and Preliminary Validation of Non-Governmental Organization Practice Checklist

Maryam Saber,¹ Hassan Eftekhar,^{1,*} Mohammad Hossein Taghdisi,² Ali Akbar Haghdoost,³ Tayebeh Fasihi Harandi,⁴ and Davood Shojayzadeh¹

¹Department of Health Education and Promotion, School of Public Health, Tehran University of Medical Sciences, Tehran, IR Iran

²Iran University of Medical Sciences, Tehran, IR Iran

³Modeling in Health Research Center, Institute for Futures Studies in Health, Kerman University of Medical Sciences, Kerman, IR Iran ⁴Social Determinants of Health Research Center, Alborz University of Medical Sciences, Karai, IR Iran

, Corresponding author: Hassan Eftekhar, Department of Health Education and Promotion, School of Public Health, Tehran University of Medical Sciences, Tehran, IR Iran. Tel: +98-218895; Fax: +98-218898, E-mail: Eftkhara@sina.tums.ac.ir

Received 2016 October 11; Revised 2016 December 07; Accepted 2017 January 02.

Abstract

Background: Non-governmental organizations (NGOs) are one of the essential measures of modern governments' management to improve social, political, and developmental activities. They play an important role in the process of development in most countries. **Objectives:** The present study was conducted to design and validate the checklist of NGOs' practice in Kerman (Iran) where the scope of their activities is increasingly more diverse and complex. The availability and access to a valid and reliable instrument is essential for intervention and promotion of non-governmental organizations.

Methods: The checklist was designed and validated from the literature review, existing reports, and current statutes of NGOs. Content and structure validity (exploratory and confirmatory factor analysis), and internal consistency were used to measure the psychometric components of the checklist. Our sample consisted of all 150 licensed NGOs in Kerman, and sampling was conducted from April 2014 to September 2015.

Results: While the checklist showed acceptable content validity, exploratory factor analysis revealed 3 factors: (a) social influence, (b) social structure, and (c) participatory experience. Confirmatory factor analysis revealed that fit indices were acceptable as χ^2 =1.65, CFI = 0.79, AGFI = 0.74, GFI = 0.82, and RMSEA = 0.1. The Cronbach's alpha was 0.7.

Conclusions: Our results revealed that the checklist psychometric properties were acceptable. This checklist can be a start point for developing standard tools in the field of non-governmental organizations' activity. In addition, this tool can be a guide for the evaluation and enhancement of NGOs' activity.

Keywords: Checklist, Non-Governmental Organizations, Non-Profit Organizations

1. Background

Non-governmental organizations (NGOs) are among the most important social capitals and one of the most influential consequences of human civilization. Preserving and excelling such organizations is more difficult than establishing them (1). The NGOs' growth rate is not similar all around the world. For example, there are over 16,000 registered NGOs in Egypt, while establishing even one NGO is forbidden in Saudi Arabia (2). Today, the NGOs are engaged in social activities at various local, national, regional, and global levels (3). Most NGOs are active in the fields of welfare, education, social development, environment, international relations, and art and culture (4). These organizations are considered as important partners and cooperators of governments in developing the societies because they provide the main base for promoting the individuals and paving the way for emergence of individuals' capabilities and potentials to perform social responsibilities and duties. Therefore, they are considered as the most effective channel for public participation in the activities related to sustainable development (5). The principal strategies of the NGOs are as follow: (a) allowing the individuals' participation ,trust building, to provide resources; (b) training ,empowerment, to improve the methods of providing services for people; (c) on-time and accurate informing (clarification) to achieve public base; and (d) establishing unity and promoting cooperation among non-governmental enterprises to achieve socio-economic development (6). Paragraph 11 of Europe convention on human rights considered "freedom of collaboration and com-

Copyright © 2017, Iranian Red Crescent Medical Journal. This is an open-access article distributed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (http://creativecommons.org/licenses/by-nc/4.0/) which permits copy and redistribute the material just in noncommercial usages, provided the original work is properly cited

munication," as the fundamental principle for NGOs (7).

Because the NGOs possess statute, authorities, administrative authorities, and members (including the principal, dependent, and other members) and follow certain rules and procedures of the country where they are registered, they might obey in some way the general regulations of that specific country (8). These organizations have a more flexible behavior compared to the private or governmental organizations. Moreover, the unofficial aspect of these organizations outstandingly overshadows their official aspects (9). On the other hand, a combination of various reasons, including their social structure, legal position, composition of members, motives of activity, relationship with the society and various groups, relationship with the government and governmental institutions, political structure, financial resources, and real and unwritten turnover of their current affairs, makes it difficult to make judgment on these organizations (1). Because these institutes follow the framework of the NGOs, they are considered as the unofficial branches of the governmental administrations. Therefore, they cannot revive without coordination with the governmental structure even if they have passed all the official barriers. In Iran, people play an insignificant role in meeting and realizing the objectives of sustainable development in the third development plan; and the active NGOs encountered numerous obstacles and limitations within the society (10). Moreover, followed by the lack of society's readiness for accepting the NGOs, some of these organizations have been changed to a threat for social security instead of helping the growth and excellence of the society (2). In Iran, unclear factors affecting the performance of these organizations might be one of the reasons for the inappropriate position of NGOs. By reviewing the literature, we found no standard tool for the integrated and systematic investigation of the factors affecting the activities and performance of the NGOs across Iran. The lack of such standard tools to monitor the NGOs' activities might lead to an increased complexity of the issue. Considering the shortcomings in this field, the present study aimed at designing and assessing the psychometric properties of the NGOs' performance checklist in Kerman, Iran. Considering the cultural and structural similarity among NGOs in our country, this tool could be used to investigate the performance of these organizations in Iran. Such studies could encourage the NGOs to carry out the activities through teamwork focused on innovation in social and cooperative activities and recruit new and specialized experts. Furthermore, governmental organizations must consider the self-generated and public NGOs that are founded with affection and love toward the society as the auxiliary arm and try to interact with them to improve the efficiency of the services provided for the people in need.

2. Methods

2.1. Study Design and Setting

This cross-sectional study was carried out on nongovernmental organizations in Kerman, one of the most important cities in southeast of Iran. According to a census in 2011, Kerman population was 534,441, which due to lack of government recognition of informal residences and use of urban facilities by people in the city's margins, the population has been raised up to 712,000. NGOs receive the operating license from a governmental department called Public Administration. After investigating some items including the request, the scope of NGO's activity and statute, and identity histories, the license is issued in accordance with the governmental rules and guidelines. Therefore, nongovernmental organizations are somehow under the indirect supervision and accountability of governmental organizations and have to provide a semiannual report of their activities to renew their license.

2.2. Instrument

To collect data, a checklist consisting of 22 items was designed based on literature review, reports, the statute of current NGOs. The first 9 items are described as follow:

1) NGOs objectives: considering the scope of activity in the NGO's statute, each object is placed in one of the five groups including rehabilitation, promotion and education, treatment, social and cultural, and supporting.

2) The method to accomplish the NGOs' goals which was divided into three items included educational (such as workshop and conference), supportive, and equipment. The method also included a combination of those three items.

3) The scope of non-governmental organizations' activities consisted of four groups: (a) activities in the field of social pathologies such as poverty, addiction, women and children with no supporter, and prisoners; (b) activities in the social fields such as sports, cultural promotional, and environmental services; (c) activities in the field of support for the elderly and individuals with disabilities including physical and mental disability, blindness, and deafness; and (d) activities in the ideological and religious fields.

4) The target population consisted of two groups: a) healthy population of any age and gender, b) unhealthy population including people with mental and physical illness, and disability.

5) Initial funding of non-governmental organizations: in the present study, NGOs with an initial investment of

less than 10 million Rials (310 US dollars) were considered as organizations with lack of basic assets.

6) Being active or inactive at the time of the study: organizations were considered active at the time of the study if they delivered a 6- month report of their activities and if their operating license was renewed.

7) The age of NGO's chief executive officer (CEO) was categorized in 5 age groups including 25 - 35, 35 - 45, 45 - 55, 55 - 65, and 65 - 75.

8) The gender of the NGO's CEO (male or female)

9) The ways of NGO funding

The next 13 items had a qualitative measurement scale and were selected to be entered into the exploratory factor analysis according to their nature and concept: (1) civil activist member; (2) economic member; (3) influential people in the city; (4) faculty members; (5) expert member of NGO activity scope; (6) senior managers in the past and present; (7) wealthy member; (8) Management of NGOs; (9) innovative services; (10) team work; (11) NGO importance from the perspective of issuing the organizations license; (12) the level of NGO's social activity; and (13) the activity time. These 13 items were selected for exploratory analysis on a 4- degree Likert scale.

Total Cronbach's alpha was 0.70 which was calculated from a sample size of 30 organizations. In addition, those 30 samples were entered into the main sample to increase the sample size.

2.3. Sampling and Data Collection

For content validity using a qualitative method, the checklist was given to 6 faculty members of Tehran and Kerman Universities of Medical Sciences and 5 experts of Kerman NGOs. Then the checklist was corrected based on their opinions. Consequently, the designed checklist was completed for the structural validity of all 150 licensed nongovernmental organizations in Kerman. Some items of the checklist were completed by one of the researchers and by reviewing the statutes of the NGOs. Moreover, some items of the checklist which were not available in the statutes were completed by 6 experts who were responsible for issuing the license with sufficient knowledge of NGOs. The researcher provided information to the experts about how to complete the designed checklist. Sampling was performed from April 2014 to September 2015. In the present study, the inclusion criteria included the active and licensed NGOs. However, the statutes of the NGOs that were inactive or on registration during the course of research were excluded from the study. Because data collection was performed by reviewing the statutes of all 150 NGOs, we did not have any missing data in the present study.

2.4. Data Analysis

All items of the checklist were scored, and descriptive statistics (frequency, percentage, mean, and standard deviation) and inferential statistics (exploratory and confirmatory factor analysis and Spearman correlation coefficient) were calculated. Principal component analysis (PCA) and varimax rotation were used for structural validity. First, Bartlett test was performed to determine normal distribution of the sample and to determine whether the sample size was sufficient for factor analysis. In addition, Kaiser-Meyer-Olkin test (KMO) was also conducted to determine the adequacy of the correlation between the variables. Selection criterion of the number of factor loads and eigenvalue were considered at least 0.4 and more than one, respectively. The confirmatory analysis was done by maximum likelihood method and five fitness indices were used for fitness of the confirmatory model. Relative Chi-Square (χ^2 /df) was calculated to measure the total fitness and the values less than 3 indicated the model fitness (11). On the other hand, some researchers have reported ratios higher than three and even five as a goodness of fit (12). Other fit indices used in the confirmatory factor analysis were comparative fitness (CFI), goodness fitness index (GFI), amended goodness fitness index (AGFI), and root mean square of approximation (RMSEA). Acceptability of model fitness indices was judged by the following criteria: AGFI, GFI, and CFI equal or more than 0.8, and RM-SEA less than 0.08 were considered as a good fit, and RM-SEA between 0.08 and 0.1 was considered as a moderate fit. Cronbach's alpha coefficient was used to determine the internal consistency of the structures. The internal consistency of the structures was determined after performing factor analysis on all 150 samples. The internal consistency of the structures was considered to be "excellent", if Cronbach's alpha coefficient was higher than 0.9, "well" if Cronbach's alpha was between 0.7 and 0.9, "average" if Cronbach's alpha was between 0.5 and 0.7, and "unacceptable" if Cronbach's alpha was less than 0.5 (13). Spearman correlation coefficient was used to determine the relationship between the factors. Data analysis was done by means of SPSS Version 16 and LISREL 8.8.

2.5. Ethical Consideration

This article was part of the doctoral thesis on health education and health promotion with ethics code of IR-TUMS.SPH.REC.2016-502. Statuses of NGOs were studied after obtaining the permission from three governmental organizations; the researchers were blinded to personal information of the NGOs; and all data were entered into SPSS by one of the researchers.

3. Results

In the present study, 150 NGOs have been registered as legal and non-governmental organizations. Most of the objectives were related to social and cultural purposes (44.7%) and the least (6%) to health and treatment purposes. About 39% of the NGOs have registered the method to achieve their objectives by establishing and buying supported centers' equipment. In addition, 44% of the NGOs have been registered with the scope of social activity, and 36.7% with the scope of social pathologic activity. While the population of 18% of the NGOs was unhealthy individuals, the population of the rest of NGOs was healthy. The majority of government organizations (62%) had initial funding of more than \$310. Moreover, 71.3% of the NGOs were active at the time of the study, and the most active age group (42.7%) was between 25 and 35 years, and the least active age group (6.7%) was between 35 and 45 years. According to descriptive analysis, the most CEOs of the NGOs were male (69.3%) (Table 1). All NGOs have used various sources for funding including gifts, donations, loans, and facilities provided by banks.

3.1. Structural Validity

Conducting the exploratory factor analysis on 13 qualitative items revealed that the Bartlett test result was significant (χ^2 = 473.177, df = 55, and P < 0.001). Moreover, the Kaiser-Meyer-Olkin test was 0.709; therefore, the factor power of the correlation matrix was confirmed. In the next step, PCA was conducted along with varimax rotation and 3 factors including social influence, social structure, and participatory experience with eigenvalue more than 1 was extracted. The total variance of 58.86% was explained by these three factors. According to varimax rotation and factor load of all items, two items with a factor loading of less than 0.4 were excluded because items' maintenance criterion was set to be more than 0.4). Subsequently, 11 items were loaded in those three factors including social influence (Q = 1-5), social structure (Q = 9-11), and participatory experience (Q = 6-8). Finally, checklist validation revealed that the checklist had acceptable content validity. Moreover, exploratory factor analysis showed that these three factors had a meaningful pattern (Table 2).

Among the items related to social structure factors, the maximum average was related to NGO importance from the perspective of organizations issuing the license (3.03 ± 1.02) and the level of social activity of the NGO (2.78 ± 0.86) Table 2). In addition, among the items related to participatory experience factors, the maximum average was related to innovative services (2.52 ± 0.90) and teamwork (2.24 ± 0.79) . Moreover, among the items related to the social as-

Table 1. Non-Governmental Organization Characteristics in Kerman, Iran Characteristics No. (%) Rehabilitation 26 (17.3) Promotion and education 23 (15.3) **Objectives of the Statute** Treatment 9(6) Supporting 25 (16.7) Social and culture 67 (44.7) Educational 37 (24.7) Supportive 24 (16) Equipment and educational 9(6) Implementation of the objectives Educational and supportive 30 (20) Equipment and supportive 26 (17.3) 24 (16) Equipment, educational and supportive Social pathology 55 (36.7) Social 66(44) Areas of activity 14 (9.3) Supportive Ideological and religious 15 (10) Healthy 122 (82) Target population Unhealthy 28(18) No (i.e., less than 310 dollar) 57 (38) Initial investment Yes (i.e., more than 310 dollar) 93(62) No 43 (28.7) Active Yes 107 (71.3) 25 - 35 64 (42.7) 35 - 45 10 (6.7) Age groups 45 - 55 26 (17.3) 55 - 65 31 (20.7) 65 - 75 19 (12.7) Male 104 (69.3) Gender

pect of the influencing factors, the maximum average was related to economic power (1.42 \pm 0.77).

Female

46 (30.7)

Scree plot was used to confirm the best number of factors. Figure 1 displays that the slope of scree plot significantly reduced from the third (1.348) to the fourth factor (0.865).

According to a previous study on assessing ceiling or floor effects (14), if more than 15% of the respondents have a minimum or maximum score, then one of these factors is considered present. Our results revealed that such an effect was not seen in any of the 3 factors.

The correlation between the 3 factors of social influence, social structure, and participatory experience was

Items	Exploratory Factor Analysis				
	Social Influence	Social Structure	Participatory Experience		
1. Civil activist	0.827				
2. Influential people in the city	0.844				
3. Faculty members	0.689				
4. Expert member of NGO activity scope	0.550				
5. Economic power	0.618				
6. Management of NGOs			0.792		
7. Innovative services			0.714		
8. Teamwork			0.785		
9. The activity time		0.613			
10. NGO importance from the perspective of organizations issuing the license		0.782			
11. The level of social activity of a NGO		0.855			
Eigen value	3.09	2.066	1.301		
Percent of variance	28.097	18.784	11.829		

Table 2. Exploratory Factor Analysis of Non-Governmental Organization Practice

Checklist in Kerman, Iran

calculated. Table 3 demonstrates that the correlation between social influence and social structure (0.40) and between social influence and participatory experience (0.13) was significant.

Fable 3. The Correlation Matrix of Checklist Factors						
Factors	Social Influence	Social Structure	Participatory Experience			
Social influence	1					
Social structure	0.402 ^a	1				
Participatory experience	0.127 ^b	-0.09	1			
^a P value < 0.01						

^b P value < 0.05.

Confirmatory factor analysis was used to confirm ex-



ploratory factor analysis. Because one- third of the sample size should be entered into confirmatory factor analysis, we performed CFA on 60 out of 150 NGOs. As demonstrated in Table 4 depicted in Figure 2, the results of CFA expressed that fit indices were acceptable.

4. Discussion

Psychometric assessment of the checklist led to extraction of three factors. The factor of social influence had five items, the factor of social structure and the factor of participatory experience had three items. The checklist was designed based on a 4-degree Likert scale.

Content validation was the first step of determining the validity of the checklist structures. In fact, content validity means that how much the content of a tool represents the measured structure's characteristics (15); and if a tool has no content validity, its reliability is unacceptable (12, 16). While content validity can provide useful information about the representativeness and clarity of each item, it is a preferred analysis in conducting factor validity (17). In the present study, qualitative evaluation of experts' opinions was used; and according to their opinions, the given structure had initial validity for carrying out structure validation. Although content validity is an important factor in determining the measured concept, it cannot be a sufficient index to determine whether the checklist is a proper measuring tool (18). In fact, the proper content validity of a tool can be an introduction to do other validity steps such as structural validity. Therefore, the structural validity of the checklist was evaluated in the next step of validation. Structural validity includes various practices

Table 4. The Fitness Indexes of Non-Governmental Organization Practice Checklist						
	$\chi^2/{ m df}$	RMSEA	GFI	AGFI	CFI	
CFA	72.98/44	0.1	0.82	0.74	0.79	

Abbreviations: AGFI, goodness of correct fitness; CFI, fitness comparative index; Df, degrees of freedom; GFI; fitness goodness index; RMSEA, square root mean square of approximation.



Figure 2. The Final Model of Factor Structure of the three Factors in NGOs

such as cross-cultural validity, structural validity, and hypothesis test (19-22). In the present study, the checklist factor structure was examined by means of exploratory factor analysis. Three factors were extracted from the structure by principal components analysis and varimax rotation following the exploratory factor analysis. According to the main purpose of exploratory factor analysis, extraction of an appropriate number of factors based on the highest explained variance is of prime important (23). Stevens has recommended the total variance of 75% or more (24), but in a systematic review of explained variance in various studies by Henson and Roberts, the average of 52% was considered as a reasonable value in psychological studies (23). However, in the present study, the explained variance of 58.83 seemed acceptable.

In addition to the validity of a tool, its reliability is also

of great importance (25). Therefore, after ensuring the validity of a checklist, its reliability was calculated with Cronbach's alpha coefficient. The internal consistency shows the relationship among the items of a questionnaire (15, 16, 18). Reliability coefficient of 0.70 or more for a tool is acceptable to be used in a study (26), but alpha coefficient should not be more than 0.90 because this shows repetitive items (27). Our checklist alpha coefficient was 0.70, and the checklist showed to be reliable for use in our study.

The results of assessing the correlation between factors revealed a significant relationship between factors of social aspect influence and importance and participatory experience.

The checklist influencing social aspect measures different influential aspects including having civil activist members, economic power members, influential member in the city, faculty members, and having expert members in the scope of non-governmental organizations' activity on NGOs' activity. In general, NGOs are considered as supplementary beneficial and useful resources, which fill social gaps that the government or the nonprofit sectors are not able to cover profoundly (28). In other words, if NGOs' members have social activity experience in different fields and if they are expert in the scope of NGOs' activity, the organizations will have more dynamics and be more successful in the field of attracting public participation, cooperation, and trust of governmental organizations. A study was conducted by Goushki entitled: Non-Governmental Organizations from Passivity to Active Engagement in Pursuit of Public Trial. Therefore, the NGOs can reflect social demands, and it would be necessary and useful to take advantage of these organizations in criminal procedure. On the one hand, NGOs act as a tool to link the community to criminal justice system because they play an important role in developing participatory criminal policy; and on the other hand, they can be effective in developing a trust between the community and judicial system. The community and legal practitioners should believe that NGO participation in the pursuit of public trial, while supporting the victim, is effective on achieving social security and justice. However, necessary legal basis should be developed for the country for NGO participation in the criminal process (28).

The participatory experience factor measures various aspects such as membership, teamwork, and innovation.

In addition, participatory experience factor items manifest a mental image of the necessity of intergroup participation of NGOs to achieve charity objectives of these organizations. In modern civilization, attracting public participation is the most important way of developing different sectors in the community; and thus, centers of social development and health promotion have been developed. In these centers, social development is achieved along with health promotion and engaging in planned activities. Besides progress and development, the local population takes the steps toward health, practicing participation, and taking responsibility. Moreover, they learn that solving the major part of their health problems is under their own control (29).

One of the important contributing factors in NGOs survival is collaboration among different NGOs.

The social structure factor measures various aspects such as the importance of non-governmental organizations from the perspective of governmental organizations, duration of activity, and social activity level. In addition, social structure factor items manifest an intellectual image of the necessity of external cooperation with the NGOs to help these organizations achieve their objectives. In addition, the structure of an NGO represents its features, importance, and the number of years since the NGO has been active.

In the present study, we did not have any limitation, and the reliability and validity of the NGOS checklist was approved. The researchers recommend that the factor structure of NGOs be compared with other cities.

4.1. Conclusions

In the recent years, the structure and development of non-governmental organizations have been considered worldwide and consequently in Iran. Nevertheless, measuring the activities and practice of these organizations and factors affecting their objectives has been neglected. One reason for this negligence might be due to the lack of a proper tool to investigate the activities of these organizations. Therefore, correct measurement of various aspects of activities in these organizations would be a step towards the promotion and enhancement of non-governmental organizations. Based on the findings of this study, the checklist of evaluating social influence, and social structure, and participatory experience of non-governmental organizations had acceptable content, structure validity, and reliability. This tool can be a start point for the development of standard tools in the scope of NGOs' activity. This tool could also provide a guide for the evaluating and enhancing NGOs' activity. It is recommended to conduct further studies in the field of activities of NGOs with different activity scope in other provinces.

Acknowledgments

Researchers appreciate the managers and experts of the social department of the governor, Welfare and Youths and sports organizations in Kerman that provided the facilities and valuable cooperation to conduct the present research.

References

- 1. Moghimi S. Design and explain entrepreneurship model for NGOs in Iran. Tehran: Tehran University; 2002.
- 2. Elbayar K. NGO laws in selected Arab States. Int J Not-for-Profit Law. 2004;7(4):3-27.
- Rafiei F, Sabbagh-Gol M, Ebrahimi R. The role of NGOs inThe expansion of human security. Collected essays International Conference on Human Security in West Asia. 2008.
- Anheier HK. Nonprofit organizations: Theory, management, policy. London and New York: Routledge; 2014.
- Krishna A, Shrader E. Social capital assessment tool. Conference on Social Capital and Poverty Reduction. Washington, D.C. The World Bank; 1999.
- Greve A, Benassi M, Sti AD. Exploring the contributions of human and social capital to productivity. Hawaii international conference on system sciences. Vancouver, BC. 2006.
- 7. Fard SM. The role of international non-governmental organizations in global humanitarian action. Ilam: Ilam Zana Publications; 2014.
- Karns MP, Mingst KA. International organizations: The politics and processes of global governance. Colorado: Lynne Rienner Publishers; 2004.
- Kilby P. Accountability for Empowerment: Dilemmas Facing Non-Governmental Organizations. World Dev. 2006;34(6):951-63. doi: 10.1016/j.worlddev.2005.11.009.
- 10. Mohammadi S, Yousefi A. The role and participation of NGOs in the development of environmental law. *Protect Environ*. 2010;**14**:9–23.
- 11. Jones EG, Kay M. Instrumentation in cross-cultural research. *Nurs Res.* 1992;**41**(3):186–8. [PubMed: 1584664].
- 12. Munro BH. Statistical Methods for Health Care Research. Lippincott Williams Wilkins; 2005.
- Chehrei A, Ahmadinejad M, Tabatabaee SA, Hashemi SM, Kianinia M, Fateh S, et al. Touch imprint and crash preparation intra operative cytology versus frozen section in thyroid nodule. *J Res Med Sci.* 2012;17(5):475–80. [PubMed: 23626615].
- Terwee CB, Bot SD, de Boer MR, van der Windt DA, Knol DL, Dekker J, et al. Quality criteria were proposed for measurement properties of health status questionnaires. *J Clin Epidemiol*. 2007;**60**(1):34–42. doi: 10.1016/j.jclinepi.2006.03.012. [PubMed: 17161752].
- De Vet HCW, Terwee CB, Mokkink LB, Knol DL. Measurement in medicine: a practical guide. Cambridge University Press; 2011.
- Zamanzadeh V, Ghahramanian A, Rassouli M, Abbaszadeh A, Alavi-Majd H, Nikanfar AR. Design and Implementation Content Validity Study: Development of an instrument for measuring Patient-Centered Communication. J Caring Sci. 2015;4(2):165–78. doi: 10.15171/jcs.2015.017. [PubMed: 26161370].
- Rubio DM, Berg-Weger M, Tebb SS, Lee ES, Rauch S. Objectifying content validity: Conducting a content validity study in social work research. *Soc Work Res*. 2003;27(2):94–104. doi: 10.1093/swr/27.2.94.
- 18. Yaghmale F. Content validity and its estimation. J Med Educ. 2009;3(1).
- Mokkink LB, Terwee CB, Patrick DL, Alonso J, Stratford PW, Knol DL, et al. The COSMIN checklist for assessing the methodological quality of studies on measurement properties of health status measurement instruments: an international Delphi study. *Qual*

Life Res. 2010;**19**(4):539–49. doi: 10.1007/s11136-010-9606-8. [PubMed: 20169472].

- 20. Mokkink LB, Terwee CB, Patrick DL, Alonso J, Stratford PW, Knol DL, et al. *COSMIN checklist manual*. Amsterdam: VU University Medical Centre; 2009.
- Mokkink LB, Terwee CB, Knol DL, Stratford PW, Alonso J, Patrick DL, et al. The COSMIN checklist for evaluating the methodological quality of studies on measurement properties: a clarification of its content. *BMC Med Res Methodol*. 2010;**10**:22. doi: 10.1186/1471-2288-10-22. [PubMed: 20298572].
- Schellingerhout JM, Heymans MW, Verhagen AP, de Vet HC, Koes BW, Terwee CB. Measurement properties of translated versions of neckspecific questionnaires: a systematic review. *BMC Med Res Methodol*. 2011;**11**:87. doi: 10.1186/1471-2288-11-87. [PubMed: 21645355].
- 23. Henson RK, Roberts JK. Use of exploratory factor analysis in published research common errors and some comment on improved practice. *Educ Psychol Measure*. 2006;**66**(3):393–416.
- 24. Stevens JP. Applied multivariate statistics for the social sciences. Rout-

ledge; 2012.

- Tavakol M, Dennick R. Making sense of Cronbach's alpha. Int J Med Educ. 2011;2:53–5. doi: 10.5116/ijme.4dfb.8dfd. [PubMed: 28029643].
- Schuttert JB, Liu MH, Gliem N, Fiedler GM, Zopf S, Mayer C, et al. Human renal fibroblasts derived from normal and fibrotic kidneys show differences in increase of extracellular matrix synthesis and cell proliferation upon angiotensin II exposure. *Pflugers Arch.* 2003;446(3):387-93. doi: 10.1007/s00424-003-1026-y. [PubMed: 12684791].
- 27. Nunnally J, Bernstein I. Elements of statistical description and estimation. Psychometric Theory. New York; 1994.
- Kooshki GM. NGOs: from Passivity to Active Participation in prosecuting the Public Action (Looking at the Criminal Procedure Law). J Crim Law. 2013;2(4):65–86.
- Hawkins JD, Catalano RF, Arthur MW. Promoting science-based prevention in communities. *Addict Behav.* 2002;27(6):951–76. [PubMed: 12369478].