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Translation and Assessment of Content Validity and Reliability of the Persian Version of the "Scale of Attitudes toward Persons with Disability": A Psychometric Study

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Original Article

Abstract

Introduction: The health care system should provide qualified health care services to people with disabilities equal to other members of population. The attitude of health professionals in providing standard services to people with disabilities has a significant impact on the quality of health care services. This study aimed to translate the "Scale of Attitudes toward Disabled Persons" (SADP) to Persian, and evaluate its content validity and reliability.

Materials and Methods: Initially, based on the International Quality of Life Assessment project the process of translating to Persian was done by 6 translators. Content validity ratio (CVR) and content validity index (CVI) were assessed by 8 occupational therapists. Relative content validity coefficient was investigated in order to verify the reliability of the questionnaire. The questionnaires were completed twice within 10 days by 52 health professionals who participated in this study. Internal consistency and the reliability of the test-retest were determined by calculating the Cronbach's alpha coefficient and the intra-class correlation coefficient (ICC), respectively.

Results: From 24 items, the presence of 22 items in the questionnaire was confirmed by calculating the CVR and CVI. The Cronbach's alpha for two subscales of optimism/human right and pessimism/behavior was 0.70 and 0.65, respectively. Intra-class correlation coefficient for the two scales was 0.71 and 0.69, respectively.

Conclusion: The Persian version of SAPD has good content validity and internal consistency for evaluation the attitude toward people with disabilities. Test-retest reliability is average due to the nature of attitude evaluation. SADP, along with other tools, can be an appropriate tool for evaluation attitude of health professionals toward persons with disability.

Keywords: Reliability and validity, Attitude, Disability, Health service

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Introduction

According to the latest figures issued by the Iranian welfare organization (IWA), the population of the individuals with disabilities has increased from 10% to 15% in the last five years (1). One of the important goals of health care for people with disabilities is to provide health care and rehabilitation services to improve their health, quality of life (QOL), and their entry into the society. In order to achieve these goals, the health and rehabilitation services are provided by the health care staff including physicians, nurses, occupational therapists, and physiotherapists (2). In this way, physicians and nurses are the first service providers that communicate with the individuals with disabilities and their attitudes toward the disabled are of great importance in determining treatment response, rehabilitative outcomes, and their entry into the society (3). Several studies have identified the negative attitudes of the health care workers as one of the barriers to the access of the disabled individuals to health care (4,5). Besides, people with disabilities also describe the negative attitude and inappropriate behavior of the health care staff as one of the major barriers to receiving health care (6,7). Thus, the negative attitudes of individuals in health care professions are one of the barriers to successful diagnosis and treatment of these patients which affect the quality of medical care of the individuals with

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disability (2). For example, attitudes of the health care workers may lead to deprivation of these individuals from the allocation of the medical resources and facilities to them (8). Attitude is a combination of beliefs and emotions that prepares a person to look at others, objects, and groups in a positive or negative way. Attitude is the summary of the evaluation of objects, groups, and themes, and thus predicts or guides future actions or behaviors (9). Allport defines attitudes as "a state of mental and nervous readiness that is organized through experience and applies a direct and dynamic influence on the individual's reaction to all related subjects and situations" (10). This definition, which mainly relies on learning theory, considers the impact of past experiences on organizing attitudes as well as on responding to a situation (11,12).

One of the important variables affecting the attitude that has been emphasized in the studies is the educational program of students studying in the health field (4,5,13). Since the educational program of the health students, especially medical and nursing students, is based on the medical model based on the biological sciences with a strong focus on understanding the diagnosis and treatment of the disease process, it does not give students the necessary attitude, knowledge, and awareness regarding disability (6). Therefore, examining the attitude of students in senior years clarifies the necessity of changing educational programs and introducing a social model in the education of physicians and nurses (2).

In accordance with the definition given by Tervo et al., positive attitudes toward the disabled are manifested in the three emotional, behavioral, and belief dimensions (4). The belief dimension is the belief that people with disabilities can be productive members of society, make decisions about their own interests, and lead their lives towards a normal life. The emotional dimension is the sensitivity to the positive traits and loving the person. The behavioral (practical) dimension is to create conditions to help the individuals develop their creativity potentials and move towards self-sufficiency and community participation (4,6,14). Since the function of examining the individuals' attitudes makes it possible to predict their behavior, determining the type of attitudes of the health professionals can also be helpful in providing health services to the disabled people in the same level as the other people in the community. One of the questionnaires available to assess the attitude of the health professionals is the Scale of Attitudes towards Disabled Persons (SADP).

Attitudes vary towards people with various physical and mental disabilities and need to be specifically examined (16,17). Based on different texts and books, the individuals with mental disabilities are offered less empathy compared to those with physical illnesses due to the abstract nature and the invisible nature of the symptoms (18). In addition, the results of studies indicate that stigmatization of the mental patients regardless of their disability level is more common in comparison to the physical patients (19). The lack of empathy and formation of the stigma process that goes through the four stages of "clues, stereotypes, prejudice, and discrimination" lead to a negative attitude towards people with mental disabilities even by the specialists in these disorders (20). Moreover, comparison of the results of studies that individually examined the attitudes of the medical staff towards people with different disabilities, showed that their attitudes toward people with physical disabilities were much more positive than those with mental disabilities. Given the above cases, it seems that the negative attitude of the medical staff in most cases affects the mentally disabled individuals (7,14,21,22). Accordingly, the present study was conducted with a focus on mental disorders.

At present, there are little quantitative standard questionnaires to evaluate the attitudes of medical staff. The standard tools of the Attitudes Toward Disabled Persons Scale (ATDP) or SADP have been utilized in most of the studies examining the attitudes of medical staff or students towards people with disabilities. The SADP scale is a newer version of the ATDP tool, and hence, the name and number of the items were modified in this scale (increased from 20 to 24 items) (13).

SADP is an effective, concise, and easy tool for assessing attitudes toward people with disabilities which was developed by Antonak and Livneh in the United States (13). The scale consists of 24 items rated on a six-point Likert scale ranging from strongly agree to strongly disagree with a score of +3 to -3, respectively. The SADP included three scales of optimism-human rights, behavior-misconceptions, and pessimism-hopelessness, with the internal consistency reported for the three scales based on the Cronbach's alpha coefficient as 0.81, 0.77, and 0.82, respectively (13,23).

Based on the above issues, the present study was accomplished with the aim to investigate the psychometric properties of the SADP scale in relation to attitude toward people with mental disability.

Materials and Methods

This study was a non-experimental study of the tool methodology type in which the content validity, internal consistency, and test-retest reliability were investigated. The study was started after receiving the code of ethics (IR.MAZUMS.REC.1397.174) from the Research Ethics Committee, Mazandaran University of Medical Sciences, Sari, Iran, and then the study was conducted in three sections: translation and equalization, content validity assessment, and reliability assessment.

Translation and equalization: The translation and equalization steps were carried out based on the International Quality of Life Assessment (IQOLA) project given in the following (24).

In the first step, the SADP scale was translated into Persian by two translators (Translators 1 and 2) separately who were native speakers of Persian, were English language experts, and had sufficient experience in translation. They were also asked to provide a list of terms and phrases that might have more than one equivalent. This step was performed by emphasizing the conceptual equalization of the words, phrases, and sentences of the SADP scale. Then, during a joint meeting with the researcher, the two translators discussed the prepared list of the different words and phrases and the differences in the two translations, and agreed on a unified Persian version of the two translations. In the next step, in order to examine the translation quality, the agreed Persian version was provided to two other translators (Translators 3 and 4) whose native language was Persian and were experienced in translating English texts. Translators 3 and 4 rated the items of the Persian version from 0 to 100 in terms of difficulty, clarity, uniformity, and common language use. If the mean score of an item in the two translations was below 90, the quality of the translation would be revised. Then, in order to convert the Persian version to English, the final Persian version was given to two translators (Translators 5 and 6) who were English experts with sufficient experience in translating Persian to English. The two English versions were compared and an English version was agreed on with the presence of the researcher and the translators. The final English version was compared to the original version of the scale, and the terms, phrases, or sentences inconsistent with those of the original version were checked by the researcher, and appropriate words and phrases were selected and this version was sent to the questionnaire designer. Ultimately, the designer comments were applied in the final Persian version.

Content validity: The Persian version of the SADP scale was provided to 8 experts, all of whom were occupational therapists with a M.Sc. degree or higher, more than 5 years of clinical experience, and a research background in the field of instrument content validity. The content validity ratio (CVR) and content validity index (CVI) were exploited to assess the content validity. To assess CVR, a questionnaire with Likert scale was designed as "necessary, useful but not necessary, and not necessary". Furthermore, to assess CVI, a questionnaire was provided with three criteria of "relevance, clarity, and simplicity" and a Likert scale with scores of 1, 2, 3, and 4 (not simple, clear, or relevant), (relatively simple, clear, or relevant), (simple, clear, and relevant), and (quite simple, clear, and relevant), respectively. The questionnaires were then sent to the experts and received after they were completed. The acceptable score for CVR and CVI was considered as greater than 0.85 and greater than 0.75, respectively and the desired item was considered to be necessary, simple, relevant, and clear, hence acceptable (25).

$$CVR=\frac{\text{Number of specialists who chose the necessary option}-\frac{\text{Total number of specialists}}{2}}{\frac{\text{Total number of specialists}}{2}}$$

$$CVI=\frac{\text{Number of specialists who gave a score of 3 or 4 for the item}}{\text{Total number of specialists}}$$

Reliability: The sampling was performed using the non-probabilistic and available method from among the students of Mazandaran University of Medical Sciences. The inclusion criteria for completing the questionnaire included studying in one of the clinical fields (medicine, nursing, radiology, anesthesia, and occupational therapy) provided at the university and elapse of at least four semesters of study. The sample size was considered to be 52 using Relation 1, type I error probability of $\alpha = 0.05$, test power of $1\text{-}\beta = 0.9$, and correlation coefficient of 0.4.

Relation 1 $$n=\left[\frac{Z_{1-\frac{\alpha}{2}}+Z_{1-\beta}}{0.5\ln(\frac{1+r}{1-r})}\right]+3$$

Ethical considerations were applied in order not to prevent undermining the rights of the study participants. In addition, a written consent was obtained from the participants and the questionnaires were coded anonymously. Lack of attendance had no negative consequences for the participants. In order to assess the reliability, a three-part questionnaire including written consent, demographic information, and the Persian version of the SADP scale was provided to the participants (n = 52) and was completed again by the participants after 10 days (26).

The internal consistency of the two scales of optimism-human rights and pessimism-misconceptions was assessed using the Cronbach's alpha coefficient. To examine the internal consistency, the Cronbach's alpha values were described as poor, moderate, good, and excellent with rates of > 0.50, 0.50-0.75, 0.75-0.90, and ≥ 0.90, respectively. The test-retest reliability was assessed in the two subscales calculating the intraclass correlation coefficient (ICC). As pointed out in the study by Chan et al., the two scales of behavior-misconceptions and pessimism-hopelessness are conceptually very close together, and these two scales can be converted into one scale of behavior-pessimism (26) which has also been approved by the questionnaire designer. Finally, the data were analyzed in SPSS software (version 19.0, SPSS Inc., Chicago, IL, USA).

Results

The demographic characteristics of the participants are presented in table 1. 52 people participated in the study, with the age range of 22 to 35 years old.

Table 1. Demographic information of participants

Variable		Value
Age (year) (Mean ± SD)	-	22.50 ± 3.85
Gender [n (%)]	Female	27 (51.9)
	Male	25 (48.1)
Marital status [n (%)]	Single	42 (80.7)
	Married	10 (19.2)
	Divorced	0 (0)
	Widow	0 (0)
Educational grade [n (%)]	BSc	40 (76.9)
	MSc	12 (23.1)
	MD	0 (0)
Educational field [n (%)]	Occupational Therapy	16 (30.7)
	Nursing	15 (28.8)
	Medicine	14 (26.9)
	Radiology	7 (13.4)
	Anesthesiology	0 (0)

Content validity: The content validity results examined with the CVR index showed that 100% of the experts selected the "necessary" option for all items except for items 10 and 15, which were respectively related to "post-crime commitment" and "living area zoning rules". 75% and 100% of the respondents, respectively, found these two items unnecessary due to their irrelevance. Regarding CVI, 50, 37, and 37% of the respondents scored 3 or 4 for item 10 on the three characteristics of simplicity, clarity, and relevance, respectively. In addition, 50, 25, and 25% of the respondents scored 3 or 4 for item 15 on the three characteristics of simplicity, clarity, and relevance, respectively. Thus, the two items of 10 and 15 were removed from the scale. Since the responses of the experts to the items were consistent and uniform with no dispersion, a larger number of experts was not necessary to be surveyed. The items and values for the CVI and CVR are listed in table 2.

Reliability: The Cronbach's alpha coefficient for the two subscales of optimism-human rights and behavior-pessimism were obtained as 0.70 and 0.65, respectively. Moreover, the test-retest analysis revealed that the ICC for the two subscales of optimism-human rights and behavior-pessimism were 0.71 and 0.69, respectively.

Discussion

In examining the content validity of the SADP scale, items 10 and 15 were not able to be legally and structurally introduced in Iran, but the other relevant and important items were considered. The findings in the present study indicated that this scale covers the important aspects of assessment of the attitude towards people with disabilities. The shortened form of the SADP scale given the limited number of the items, albeit incorporating the major dimensions of attitude toward people with disabilities, decreases and increases its completion time and probability of accurately completing it, respectively; this is among the advantages of a tool (27). The SADP questionnaire has been translated in several non-English language countries and has been examined in terms of content. The Chinese version of this scale has been investigated by Chan et al. (26), the Arabic version by Alabdulwahab and Al-Gain (23), and the Turkish version by Uysal et al. (28).

Regarding the investigation of the reliability of the original version by Antonak and Livneh, the internal consistency of the Cronbach's alpha coefficient for the three subscales of optimism-human rights, behavior-misconceptions, and pessimism-hopelessness was found to be 0.81, 0.77, and 0.82, respectively (13). In the study by Chan et al., the Cronbach's alpha coefficients of the optimism-human rights and behavior-pessimism subscales were 0.73 and 0.63, respectively (26) which were in agreement with the results of the present study. On the basis of the study findings, the Persian version of SAPD had a good internal consistency to assess the attitudes towards people with disabilities.

Table 2. Content validity index (CVI) and content validity ratio (CVR) items and values

Row	Item	CVI			CVR
		Simplicity	Clarity	Relevance	
1	It is advisable not to provide children with disabilities with free general education.	1	1	1	1
2	People with disabilities are not more prone to traffic accidents compared to others.	1	0.75	0.87	1
3	People with disabilities are unable to make moral decisions.	1	1	1	1
4	It is advisable to prevent the people with disabilities of having children.	1	1	1	1
5	It is advisable for people with disabilities to be allowed to choose where and how they live.	1	0.87	0.87	1
6	Building housing for people with disabilities is not difficult and costly.	1	1	1	1
7	Running a rehabilitation program for people with disabilities is very costly.	1	1	1	1
8	People with disabilities are in many cases similar to children.	1	1	1	1
9	People with disabilities need only the right environment and opportunity to develop and exhibit criminal tendencies.	0.87	0.75	0.87	1
10	It is advisable for adults with disabilities to voluntarily commit to foundations after being detained.	0.37	0.37	0.50	0.25
11	Most people with disabilities tend to work.	1	1	1	1
12	People with disabilities can adapt themselves to living outside the institution.	1	1	1	1
13	It is advisable for adults with disabilities not to be denied of receiving a driver's license.	0.87	1	1	1
14	It is better for people with disabilities to live with other people who are like them.	1	1	1	1
15	Segregation laws are better not to discriminate against people with disabilities by banning group homes in residential areas.	0.25	0.25	0.50	0
16	It is advisable to provide a profitable employment opportunity for people with disabilities.	1	1	1	1
17	Children with disabilities have a negative impact on other children in regular classes.	1	1	1	1
18	Simple repetitive tasks are suitable for people with disabilities.	1	1	1	1
19	People with disabilities exhibit an aberrant personality profile.	1	0.87	0.87	1
20	It is advisable for people with disabilities to be provided with equal employment opportunities.	-	-	-	1
21	It is advisable to enact laws to prohibit employers from discriminating against individuals with disabilities.	0.87	1	1	1
22	People with disabilities engage in extravagant and aberrant sexual activities.	1	0.87	0.75	1
23	Workers who are disabled due to disabilities and do not receive a wage should be paid at least the minimum wage specified for their former job.	1	1	1	1
24	It is expected that people with disabilities can adapt to the current competitive society.	0.87	0.87	1	1

CVI: Content validity index; CVR: Content validity ratio

One of the important and effective factors on the attitude of the health students towards people with disabilities in various studies was the educational content and the way of teaching these students, which were pointed out in different ways. In the study by Chan et al., the educational background in the United States has been declared as one of the reasons for better attitude of the US health students toward people with disabilities in comparison to the Chinese students (15). Additionally, studies performed to examine the attitude of nursing students have found educational content to be an important indicator of the attitude of these students toward people with disabilities and suggested that educational materials influencing their attitude be included in their educational content (6,28). Studies that examined and compared attitudes in other health professions in addition to nursing such as medicine, occupational therapy, and physiology toward people with disabilities, emphasized student education and acknowledged that acquiring knowledge would improve their attitudes toward people with disabilities (3,4,21,29). Moreover, investigations in Iran regarding the formal and hidden educational program of the medical and nursing students reveal the necessity of changing the educational program in order to improve the provision of health care without discrimination and adherence to the principles of professional ethics (30). Furthermore, numerous studies on the attitudes of individuals, including health professionals and non-specialists, have reported a more positive attitude toward individuals with physical disabilities compared to those with mental disabilities, indicating the need for special attention to attitudes toward individuals with this type of disability (5).

Limitations

One of the limitations of the present study was the complexity of the attitude investigation. This complexity was inevitable due to the nature of attitudes in all studies in the area of attitudes. Another limitation was the lack of access to senior medical students due to their presence in numerous educational hospitals and their high occupation.

Recommendations

It is suggested that researchers develop tools regarding the attitudes of people with disabilities and compare it with the present tool to overcome the complexity of studying attitudes. It is also suggested to check the content validity and internal consistency of this tool in other populations.

Conclusion

Given the limited tools available to measure attitudes toward people with disabilities, the SADP scale can be used alongside qualitative methods to measure attitudes of health students toward people with disabilities.

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Authors' Contribution

Marziyeh Moradi-Abbasabadi: Study design and ideation, manuscript arrangement, Study support and executional services, providing study equipment and samples and information collection, data analysis, specialized statistics services, responsibility for maintaining the study integrity from beginning to the end and responding to the referees' questions, specialized analysis and evaluation of the manuscript in terms of scientific concepts, and manuscript verification prior to submission to the journal.

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Conflict of Interests

There was no conflict of interest. Marziyeh Moradi-Abbasabadi was funded by the Mazandaran University of Medical Sciences for her basic studies associated with this paper and has been working as an occupational therapist at the University since 2016.

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