Research Paper
The Face and Content Validity of the Persian Version of Occupational Identity Questionnaire in People With Multiple Sclerosis

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ABSTRACT

Background and Objectives: Occupational identity (OI) is a crucial factor in occupational therapy evaluations and interventions which is not investigated in chronic conditions, including multiple sclerosis (MS). The Occupatinal Identity Questionnaire (OIQ) is an appropriate tool for assessing occupational identity. As a result, this research aims to adapt the Persian version of OIQ for people with MS and evaluate its face and content validity.

Methods: The face validity of OIQ was qualitatively and quantitatively evaluated with 15 participants diagnosed with MS. Interviews were used to qualitatively assess the face validity. In addition, the item impact method (IIM) was applied to quantitatively assess face validity. A total of 12 experts with experience in the field of neurology participated in evaluating content validity. The content validity ratio (CVR) and the content validity index (CVI) were applied in this evaluation.

Results: All the items received IIM scores above 1.5 (3.03 to 4.62). Also, none of the items were mentioned as incomprehensible during interviews. The CVR scores for each item ranged from 0.63 to 1 (based on Lawshe >0.59). After that stage, a CVI study was conducted. In that study, scores for each item ranged from 0.83 to 1. S-CVI/Ave score was 0.94 and scale CVI/universal agreement (S-CVI/UA) was 0.57. Based on experts' comments, it was determined that adjustments were necessary for item number 6 and 10.

Conclusion: The Persian version of the OIQ demonstrates acceptable face and content validity in the context of MS. It is recommended to conduct a test re-test, internal consistency, construct validity, and factor analysis.

Keywords: Validity, Multiple sclerosis (MS), Occupation, Identity, Questionnaire

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↑ *What is "already known" in this topic:*

Occupatinal identity questionnaire (OIQ) has been developed in Japan and it is a valid and reliable assessment for occupational identity. OIQ has acceptable psychometric properties in elderly population.

➡ *What this article adds:*

Multiple sclerosis symptoms change individuals' ability to participate in their occupations; subsequently, it may alter occupational identity. The authors of this article aimed to provide a valid assessment for occupational identity in peoplewith MS. OIQ demonstrated acceptable content and face validity in this population.

Introduction

Multiple sclerosis (MS) is a common neurological condition among young adults that has a chronic, degenerative, and disabling nature [1]. People with multiple sclerosis (PwMS) often face a variety of symptoms, such as visual impairments, tremors, ataxia, fatigue, imbalance, bowel/bladder problems, cognitive decline, and psychological disorders [2]. These symptoms can prevent them from engaging in their typical occupations and changes in occupational abilities may change their understanding of how they perform in their occupations [3]. The effect of this inability on their sense of occupational identity is not fairly understood.

Occupational identity is shaped by a sense that we are as an occupational being and it depends on our past, current, and future occupations [4]. This definition shows that occupation and identity are separate but connected concepts [5]. When an illness or condition leads to reduced engagement in occupations, it may have detrimental impacts on one's occupational identity; as a result, individuals consistently try to restore their occupational performance and regain their occupational identity [6]. Furthermore, occupational identity can influence clients' motivation and adherence to therapy. A well-defined occupational identity enhances patients' perceptions of their occupational roles and helps them set meaningful goals for their therapy [7, 8].

The occupational identity questionnaire (OIQ) is a new tool exclusively intended to assess occupational identity (OI); Shikata developed this questionnaire in Japan to assess OI in the elderly [9]. OIQ has 14 items and is divided into three sections, individuals' feelings about themselves in present and future expectations, individuals' feelings about their past, and satisfaction with the present condition. This questionnaire is self-reported, allowing clients to respond on a 4-point Likert scale [9]. Since this ques-

tionnaire was originally designed for the elderly, it was predicted that it may need some adaptations to be suitable for PwMS. As a result, the study was conducted to assess the face and content validity of the OIQ and make necessary changes according to patients' and experts' opinions.

Materials and Methods

In this study, the Persian version of OIQ was used after permission was obtained from the developer. The study used a methodological design and was completed in May 2024. In this study, we evaluated the content and face validity of OIQ. The Research Ethics Committee of the Iran University of Medical Science assessed and approved the study design. The authors informed all participants about the study's objectives, and informed consent forms were signed by the participants.

Face validity

A total of 15 Iranian patients diagnosed with MS participated in the face validity study. The inclusion criteria included being diagnosed with MS by 2 neurologists according to the revised McDonald criteria [10], diagnosis duration ≥ 6 months, education level ≥5 years, Montreal cognitive assessment scores (MoCA) ≥26 [11], Beck depression inventory scores (BDI-II) ≤29 [12], not having other neurological disorders or visual impairment according to the patient's statement.

Content validity

A total of 12 PhDs in occupational therapy and PhD candidates participated in the study of the content validity ratio (CVR) and content validity index (CVI). The inclusion criteria included having ≥5 years of experience in the field of neurology especially MS, being familiar with the concepts of occupational therapy and occupational identity, or having published articles in these fields.

Measures

Dr. Shikata created OIQ in Japan. Initially, its purpose was to evaluate the occupational identity among the elderly population. The questionnaire is composed of 14 items, divided into three sections, individuals' feelings about themselves in present and future expectations, individuals' feelings about their past and satisfaction with present condition. Respondents answer the items on a Likert scale from 'strongly agree' to 'strongly disagree'. Scores are assigned on a scale from 4 (strongly agree) to 1 (strongly disagree). Scores range from 14 to 56; higher scores indicate a stronger sense of OI and lower scores indicate a weaker sense of OI [9].

Face validity

The face validity was first assessed qualitatively through in-person interviews. Each participant evaluated every item about its comprehensibility, clarity, and potential ambiguity. Second, a quantitative assessment was conducted by measuring each item's importance with the item impact method (IIM). The measurement was performed using a 5-point Likert scale which ranged from 1 (not important at all) to 5 (quite important). Items IIM was calculated according to Equation 1:

1. Impact Score: Importance×Frequency (%).

Items which receive a score >1.5 are suitable for subsequent analysis.

Content validity

CVR and CVI were employed to evaluate the validity of the content [13, 14]. To calculate the CVR, the necessity and essentiality of each item were evaluated using a 3-point Likert scale [15]. The assessment involved 12 occupational therapists but one was excluded due to filling the form incompletely and not responding to our emails. The formula of the CVR is (Equation 2):

2. CVR=(Ne–N/2)/(N/2);

Ne represents the number of experts indicating an item as "essential" and N represents the number of experts participating in the evaluation. According to Lawshe's Table, a critical value of CVR >0.59 is acceptable for 11 experts [14]. CVI is a widely used method to examine content validity [14]. In this research, item-level-CVI (I-CVI) and scale-level-CVI (S-CVI) were employed. I-CVI assesses the relevance of each item according to the Likert scale. For each category, we calculate the proportion of experts who selected ratings 3 and 4 on the Likert scale, relative to the total number of experts [16]. The result of this calculation varies between 0 to 1. An item is considered eligible if its I-CVI exceeds 0.79. If the value falls between 0.7 to 0.79, it indicates that the item requires revisions. Items with values below 0.7 are considered for elimination [16]. In addition, the overall CVI of the scale was calculated by methods of scale CVI/universal agreement (S-CVI/UA) and scale CVI/average proportion (S-CVI)/Ave. S-CVI/UA indicates the proportion of items that receive a relevancy score of 1 by all the respondents and it shows agreement among experts on each item's relevancy. S-CVI/Ave is an average of I-CVI scores for all the items [17].

Results

Face validity

Table 1 presents the demographic characteristics of 15 participants who took part in the evaluation of the face validity. In the quantitative study, all the items received item impact scores (IIS) above 1.5 indicating sufficient importance for all the items. IIS scores ranged from 3.03 to 4.62. Also, during qualitative interviews, none of the items were mentioned as ambiguous or incomprehensible. Since all the items were deemed comprehensible and received sufficient IIS scores, we decided not to eliminate any of them.

Content validity

The study on CVR involved the participation of 12 occupational therapists; one of the experts was excluded because he did not complete the form or respond to our emails; therefore, calculations proceeded with the remaining 11 experts (Table 2). According to Lawshe's table, the CVR value for each item should be higher than 0.59 when evaluated by 11 experts [18]. Items with non-essential or less essential scores should be removed. In our study, all items received scores higher than the specified value of 0.59; therefore, we retained all the items. The scores for each item varied between 0.63 and 1. The average score of CVR was 0.89.

CVI evaluation was also conducted with the participation of these 12 experts. In this stage, item level CVI (I-CVI) scores for relevancy ranged from 0.83 to 1, demonstrating sufficient relevance. The S-CVI/UA score was calculated at 0.57. Furthermore, the S-CVI/Ave score was 0.94, showing excellent scale level content validity. However, we received comments from experts concerning adaptations for items 6 and 10. The experts' opinions

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Table 1. Descriptive characteristics of patients

Variables		No.
Age (y)	≤50	5
	>50	10
Gender	Female	15
	Male	0
Educational level	<12	2
	≤12	13
Employment status	Employed	8
	Unemployed	7

indicated that items 6 and 10 needed to be revised to be appropriate for PwMS (Table 3).

Based on these opinions, 2 out of 14 items (6 and 10) were modified to align with MS. In the original version of the questionnaire, item 6 was "I cannot do as I did when I was young, but I think that I am doing well" which was converted to "I cannot do as I did before my illness, but I think that I am doing well" in MS modified version. Item 10 converted from "rather than having nothing to do, it is better to have something to do" to "rather than having nothing to do, I should have something to do". The revised version was submitted to the developers, and after receiving their approval, we implemented these modifications in the Persian version. Furthermore, the revised version was sent to experts who participated in the study, and their approval was also received.

Discussion

The face validity of the OIQ was qualitatively and quantitatively assessed for PwMS. In the qualitative study, participants evaluated whether the items on the questionnaire were clear and understandable. The feedback indicated that all the items were understandable for patients and they did not report any ambiguity. In the quantitative study, they evaluated OIQ items in terms of their importance and results indicated that all the items were perceived as crucial for assessing occupational identity in PwMS. The high face validity suggests that the items are perceived as crucial and comprehensible by patients, which is crucial to ensure respondents understand and engage with the questionnaire. In addition, high face validity may lead to improved factor analysis and enhance the questionnaire [19].

Table 2. Descriptive characteristics of experts

Variables		No.
Age (y)	≤30	2
	>30	10
Gender	Female	8
	Male	4
Years of experience	≤10	7
	>10	5
Education	PhD	6
	PhD candidate	6

Table 3. The results of face and content validity

Item	IIS	CVR	I-CVI
1. Previously, I felt a rewarding sense of satisfaction about work and homemaking. قبلا با انجام وظایف شغلی‌ام و انجام امور منزل حس خوب رضایت را احساس می‌کردم.	4.14	0.82	0.83
2. Previously, I lived with a well mind and body. قبلا از نظر جسمی و ذهنی سالم بودم.	3.98	1	0.91
3. Previously, I felt that I was helpful to others. قبلا احساس میکردم که کمک حال دیگران هستم.	3.59	1	1
4. Previously, I did well despite difficulties. قبلا با وجود چالش‌های زیاد، باز هم کارم را خوب انجام میدادم.	4.03	1	1
5. Previously, I did well with other people. قبلا به خوبی با دیگران همکاری می کردم.	4.4	1	1
6. I cannot do as I did before my illness, but I think that I am doing well. هرچند مثل دوران قبل از بیماری‌ام کار نمی کنم، اما فکر میکنم کارم را به خوبی انجام میدهم.	4.4	0.82	0.83
7. I have fun in my life. من در زندگی‌ام سرگرمی دارم.	3.89	0.82	1
8. I think that there is a person who understands my feelings and I am satisfied with that. من فکر می‌کنم یک نفر هست که احساساتم را درک میکند و از این بابت احساس رضایت دارم.	4.36	0.82	1
9. I think that I live as I expected I would. فکر می‌کنم همانطوری که انتظار داشتم زندگی میکنم.	4	1	1
10. Rather than having nothing to do, it is better for me to have something to do. بهتر است کاری برای انجام دادن داشته باشم، به جای اینکه کاری برای انجام دادن نداشته باشم.	4.42	0.63	0.83
11. From now on as well, I want to meet the expectations around me. از این لحظه به بعد، می‌خواهم انتظارات اطرافیانم را برآورده کنم.	3.03	0.82	0.91
12. I want to live happily in the future. می‌خواهم در آینده شاد زندگی کنم.	4.62	1	1
13. From now on as well, I want to do what I can do. می‌خواهم از الان به بعد هر کاری را که می‌توانم انجام دهم.	4.33	0.82	0.91
14. I would like to challenge myself to do what I do not do now. دوست دارم خودم را با انجام کارهایی که تا الان انجام نمی‌دادم به چالش بکشم.	4.08	1	1

Abbreviations: IIS: Item impact score; CVR: Content validity ratio; CVI: Content validity index.

Content validity was evaluated by the involvement of occupational therapy experts. Each expert rated the necessity and relevance of each item on the OIQ. The CVR and CVI were calculated to quantify the content validity. The CVR and CVI scores were above determined cut-off points, indicating a high level of content validity. These high CVR and CVI scores suggest that the items cover the domain of occupational identity for PwMS. According to experts' comments, two items were identified as needing revision to better adapt for PwMS. These items were subsequently modified based on the suggestions. 8 out of 14 items scored a 1 in the CVI/UA evaluation, indicating complete agreement among experts. Therefore, these items appear to be essential to assess OI. The results from content validity assessments demonstrated that the OIQ is a suitable tool to assess OI. The high content validity, as demonstrated by CVR and CVI, shows that the items are essential to assess OI and they adequately cover all relevant aspects of OI. These results were consistent with the results of Shikata et al. that OIQ showed sufficient validity for the elderly [9, 20].

Evaluating occupational identity is crucial in the occupational therapy process because when therapists have a better understanding of how MS affects their client's roles and sense of occupational identity, they can plan their interventions based on those changes [21]. OIQ can be a useful tool for this evaluation if more studies prove its psychometric properties. Furthermore, OIQ was originally designed in the East, allowing for better cultural adaptation with the Iranian community, requiring more investigations. The briefness of the OIQ is another advantage, making it more suitable for PwMS who often experience fatigue. However, insufficient evidence is available for the validity and reliability of this questionnaire, and future investigations are needed to evaluate its psychometric properties, such as test re-test reliability, internal consistency, construct validity, and discriminant validity. It is essential to remember that occupational identity is a multi-dimensional concept and it is still unclear that if OIQ can assess all those dimensions or not; therefore, it is necessary to do more research on its usability.

This study had some strengths and limitations. One of the strengths is the involvement of experienced occupational therapists, which enhances the robustness of the validity assessments. However, there were some limitations in the study; for example, the sample size of patients was adequate, but it could be expanded. In addition, all participants were female in the face validity study.

Conclusion

The Persian version of the OIQ demonstrated strong face and content validity, indicating that it is a suitable tool for assessing occupational identity. The high validity scores suggest that the questionnaire items are comprehensible, crucial, essential, and relevant. Future studies must evaluate other psychometric properties, such as test re-test reliability, internal consistency, construct validity, and discriminant validity.

Ethical Considerations

Compliance with ethical guidelines

This study was approved by the Research Ethics Committee of Iran University of Medical Science (Code: IR. IUMS.REC.1402.771).

Authors' contributions

All authors equally contributed to preparing this article.

Conflict of interest

The authors declared no conflict of interest.

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