


ORIGINAL ARTICLE

Psychometric Properties of the Preschool Age Psychiatric Assessment (PAPA) in Farsi: Based on DSM-5

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Abstract

Objectives

The first onset of many psychiatric disorders usually occurs in childhood or adolescence. The structured interview of Preschool Age Psychiatric Assessment (PAPA) was developed in response to the need for a standardized and reliable method to assess psychiatric disorders in preschool-age children. This study aimed to translate DSM-5-based PAPA into Farsi and evaluate its face and content validity and reliability.

Materials & Methods

The procedure was a forward translation of PAPA to Farsi, evaluation for face and content validity, finalization of items within the expert panel, backward translation to English, matching the original PAPA with randomly selected items from the backward translation version, and revision as needed, and finally evaluation for the validity of the changes for localization and cultural considerations. The interviews based on the final Farsi version were performed on thirty parents of children from two to five years old (chosen from Tabriz health centers) to determine the reliability and were repeated at an interval of two weeks.

Results

The mean of CVI=0.91 and Modified Kappa=0.90 were obtained, and reliability with Cronbach's alpha was 0.89.

Conclusion

The Farsi version of the DSM-5-based PAPA diagnostic interview has good face and content validity and reliability.

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Introduction

Preschool-age children may experience several emotional and behavioral symptoms that affect their development, which may interfere with regular performances at this age. On the other hand, numerous problems exist in diagnosing psychiatric disorders and symptoms in preschool children, such as disagreement on how to present psychiatric disorders in preschool ages and how to assess them. Another issue is prevention, which is as important as a therapeutic intervention. Therefore, in addition to covering the symptoms of current diagnostic frameworks, the criteria should assess these disorders' early presentations (1).

Neuropsychiatric disorders in children and adolescents are critical because, if not treated, they will profoundly affect their development, educational status, and ability for an independent and functional life (2). Timely diagnosis plays a vital role in the process of control and management of mental health problems. Different studies show that most psychiatric disorders begin during childhood and adolescence. Thus, the importance of early diagnosis and interventions for this age group and whether they significantly affect behavioral and socio-emotional problems is becoming increasingly clear (3).

Preschool Age Psychiatric Assessment (PAPA) is a valuable and comprehensive clinical interview designated because of a need for a standard and reliable method for assessing children's psychiatric disorders in preschool ages. (1, 4, 5, 6, 7, 8).

Currently, the tendency to use PAPA interviews is increasing among psychiatrists, especially child and adolescent psychiatrists, but the major difficulty in using this method is the way it is used in non-English speaking countries. In Iran, in the study by Norouzi et al. (2016), the Farsi version of the PAPA interview's face and content validity based on DSM-IV-TR was studied (9). Given the recent changes in the DSM-5 psychiatric classification system and subsequent modifications in questions related to some disorders in the PAPA diagnostic interview, with the current study's design, the authors decided to examine the reliability, face, and content validity of the Farsi version of DSM-5-based PAPA.

Materials & Methods

This psychometric study on PAPA was performed in the Department of Psychiatry at Tabriz University of Medical Sciences in Iran. PAPA was first introduced in 1998 by Egger et al. in an interview with parents to diagnose psychiatric symptoms and disorders in preschool-age children (two to five years). PAPA was designed utilizing the CAPA criteria developed in 1995 for children aged 9 to 18. Although PAPA was initially extracted from the CAPA interview, its content and structure are subject to major changes to be homogeneous with preschool-age children's conditions. PAPA is a structured and interviewer-dependent interview in which clear definitions of the symptoms are provided in detail, and a series of structured questions are used to identify diagnostic

judgments. The symptoms' severity, frequency, and duration are also provided to the interviewer (1, 6, 8, 10, 11, 12).

Procedure

The research team (including a Farsi-speaking expert in English and a psychiatrist) translated the original version into Farsi to prepare the Farsi version of the PAPA Diagnostic Interview. Face and conceptual conformity (with a priority on conceptual conformity) were investigated by an expert panel (including five child and adolescent psychiatrists, one general psychiatrist, one methodologist, one English professor, one fellow in child and adolescent psychiatry, and one psychiatric assistant) in 12 sessions of discussion. According to the expert panel's opinions, in cases where the subjects were not compatible with the country's culture or did not exist in the country because of social conditions, localization was done, and questions were replaced with more compatible questions. After agreement on the translation items of the Farsi version, according to the expert panel, due to the large size of this questionnaire and the limited time, using a systematic random sampling method for about 2% of its total pages (14 pages and 60 questions) were selected via Excel software (with 28 random numbers and 43 sampling intervals) with a weight case of five for the original questions (bold in the questionnaire based on the original version). Then, it was again translated into English by a person who knew English as well as an English speaker (native) and was proficient in Farsi. A table with a Likert scale was designed to examine the level of conformity of the back-translated version with the original one and was given to them with the color print of both versions (without signifying the original and back-

translated versions for the evaluators). Any relative or complete inconsistency in each back translation item was re-evaluated in the panel, and the appropriate changes were made to the translation items until agreed upon.

The authors used the Content Validity Ratio (CVR), Content Validity Index (CVI), and Modified Kappa to determine the content validity qualitatively. Thus, the necessity of expressing each item, relevance, clarity, and transparency of each question with a special form were evaluated by some outside-panel psychiatry professors unfamiliar with the original English version of the PAPA. After reviewing their opinions, the panel made all the necessary corrections. According to the expert panel members, localization was done in cases where the subjects were inconsistent with Iran's culture and social conditions (such as ethnicity, marriage, occupation, education, income, source of income, and parent-child relationships).

Reliability

The test-retest reliability method and Cronbach's alpha coefficient were used to evaluate reliability. Therefore, thirty people (according to the 'methodologist's opinion) were selected and interviewed based on the PAPA Farsi version, and the interview was repeated two weeks later. Fifty-nine health centers exist in Tabriz, out of which 15 were selected by a systematic random sampling method as health center samples and two persons were selected from each center (children two to five years) with a convenience sampling method. Alternative available samples were used if the child's parents were reluctant to participate in the interview or had insufficient access to the information in each interview.

Ethical issues

Regarding ethical considerations, the confidentiality of the information was explained to the participants, and written informed consent was obtained from the children's parents to participate in the interview.

Results

In examining the back translation and the original version, sixty questions from the two versions of the original translation and the retranslation were put along with each other, numbered, and given to the expert panel to examine the conformity. Each panel member was asked to investigate the existing questions' conformity while it 'was not specified which version was the original PAPA and which was the back translation. The results of examining the back translation and the original and the CVI and Modified Kappa indices for the selected questions are presented in Table 1.

Based on the results of Table 1, the CVI and Kappa indices show that the questions have sufficient translation power. The Modified Kappa, CVI, and CVR were 0.90, 0.91, and 0.82 for the sixty selected questions.

According to Table 1 for the six questions (Questions 1325, 752, 703, 236, 647, and 678) of the sixty questions selected, relatively non-compatible and fully non-compatible items were more than two persons, and the cases of non-compatible were evaluated in the expert panel, and corrections were made in some cases.

Localization: In continuing the results of the back translation review, the original version is prepared for localization. Table 2 shows how many panel members commented on each question.

According to the expert panel opinions, for each question, the CVI, modified Kappa, and CVR indices were calculated according to the variables

of relevance, necessity, and clarity, and the results are presented in Table 3.

The reliability of PAPA interview diagnostic questions was evaluated between 0.80 and 0.90. Therefore, the PAPA interview has good reliability. Among the thirty children selected for testing reliability, 12 boys (40%) and 18 girls (60%) were present. In terms of age, there were eight two-year-old children (26.67%), six three-year-old children (20%), seven four-year-old children (23.33%), and nine five-year-old children (30%). Among mothers, ten (33.33%) had a diploma and sub-diploma degrees, six (20%) had an associate degree, 13 (43.33%) had 'bachelor's degrees, and one (3.33%) had a doctorate.

Discussion

Researchers, including Egger et al. (1, 4, 8), believe that the PAPA diagnostic interview is the only instrument introduced to investigate the existence, course, and outcome of all preschool-age psychopathologies and that its validity and reliability are proven.

The PAPA diagnostic interview is a standardized and reliable method for assessing psychological disorders in preschool children. For the first time, the Farsi version of it based on DSM-IV-TR was prepared by Norouzi et al. in 2016 (9). Due to DSM-5 changes, the new version of PAPA's psychometric properties, including validity and reliability, must be re-evaluated.

In the present study, the PAPA interview was translated into Farsi, and changes were made to some of the questions according to the country's cultural and social conditions. In the end, it was confirmed by a panel of psychiatrists, child and adolescent psychiatrists, and epidemiologists. Then, the face and content validity of the interview

were evaluated. Finally, the reliability of the Farsi version of the instrument was assessed and confirmed by the test-retest method.

Since a timely diagnosis of psychiatric disorders and problems in preschool age can significantly influence one's life outcome (13, 14), a PAPA diagnostic interview with the high power of diagnosing preschool psychiatric problems plays an essential role in this regard so that it can be used as a trusted instrument in research studies.

Psychiatric disorders lead to disability and loss of good years of life. Moreover, in Iran, the burden of psychiatric disorders after unintentional accidents is ranked second (15). Preschool age and childhood are considered important years of life, and in terms of formation, they significantly affect future quality of life. However, studies in this age group have operational barriers. For example, a clear definition of function and duration of illness remains controversial (16). The need to have a tool that assesses the agreed criteria in a standardized manner and realizes the purpose of the research community will be largely met with a valid Farsi version of PAPA.

Psychopathological studies about children conducted in previous years, rather than structured interviews based on clinical criteria, performed more on checklists and collected data using a scoring system and have sufficed with the symptoms reported by parents and caregivers. Using structured interviews based on clinical criteria such as PAPA seems to gather more accurate information and is even more accurate in studies or treatments requiring follow-up. In the meantime, PAPA can collect details about the severity, frequency, or duration of symptoms, while checklists lack such ability.

There have been few studies on preschools in Iran. Therefore, a lack of appropriate tools to assess

young children may have contributed to the lack of such studies. However, the present study responded to this need by providing a comprehensive and appropriate tool for children 2 - 5 years old.

The original version of PAPA is in English and has been translated into several other languages. However, these versions' translation process has been part of a larger study; no detailed information on the translation process has been provided (17, 18). Of course, the current study was similar to the overall translation process, face and content validity evaluation, English back-translation, and investigating conformity with the original version. Existing versions in the other languages eventually led to the design of high-quality studies for the preschool age group. The Farsi version of the PAPA structured interview also has many capabilities for use in Iran and meets the preschool age group's research and clinical needs.

Given the mistakes made by unstructured interviews, undoubtedly, designing a structured interview is an essential step forward. Such an instrument is essential in research, and its use in clinical practice is strongly recommended (19). Therefore, given the necessary modifications made according to the relevant experts' opinions regarding Iranian culture, a new version of PAPA can be used in the present Iranian culture.

In Conclusion

According to the aim of this article, PAPA was translated into Farsi as a response to the need for a standard and reliable method for preschool-age psychiatric disorders assessment. The designer of the original version licenses the present version and has face and content validity. The Research Center of Psychiatry and Behavioral Sciences experts will make it available.

Psychometric Properties of the Preschool Age Psychiatric Assessment (PAPA) in Farsi: Based on DSM-5

Table 1. Results of the assessment of the agreement between back-translation and the original, version and the CVI, Modified Kappa, and CVR indices for the 60 selected questions.

Number of questions	Partial conformity	Complete conformity	Partial nonconformity	Complete nonconformity	CVR	CVI	Modified Kappa
715	4	6	0	0	1	1	1
1024	3	7	0	0	1	1	1
1579	2	8	0	0	1	1	1
123	3	7	0	0	1	1	1
779	0	10	0	0	1	1	1
959	1	8	1	0	0.80	0.90	0.90
127	3	5	0	1	0.78	0.89	0.89
42	3	7	0	0	1	1	1
418	5	4	1	0	0.80	0.90	0.90
598	2	8	0	0	1	1	1
699	2	7	1	0	0.80	0.90	0.90
1188	4	5	1	0	0.80	0.90	0.90
1853	4	5	1	0	0.80	0.90	0.90
1066	1	9	0	0	1	1	1
1419	0	10	0	0	1	1	1
1874	4	6	0	0	1	1	1
833	2	8	0	0	1	1	1
1325	3	4	2	1	0.40	0.70	0.66
752	5	2	2	1	0.40	0.70	0.66
2005	4	5	1	0	0.80	0.90	0.90
645	4	6	0	0	1	1	1
350	3	5	2	0	0.60	0.80	0.79
120	6	2	2	0	0.60	0.80	0.79
703	3	4	4	0	0.27	0.64	0.57
184	2	7	1	0	0.80	0.90	0.90
360	6	4	0	0	1	1	1
615	3	6	1	0	0.80	0.90	0.90
180	5	4	1	0	0.80	0.90	0.90
386	3	6	1	0	0.80	0.90	0.90
39	4	4	2	0	0.60	0.80	0.79
45	6	3	1	0	0.80	0.90	0.90
281	2	6	2	0	0.60	0.80	0.79
236	2	5	3	0	0.40	0.70	0.66

Psychometric Properties of the Preschool Age Psychiatric Assessment (PAPA) in Farsi: Based on DSM-5

40	2	8	0	0	1	1	1
327	3	6	1	0	0.80	0.90	0.90
264	3	6	1	0	0.80	0.90	0.90
402	1	8	1	0	0.80	0.90	0.90
529	2	8	0	0	1	1	1
52	6	4	0	0	1	1	1
672	0	8	0	0	1	1	1
647	2	5	2	1	0.40	0.70	0.66
461	2	6	2	0	0.60	0.80	0.79
841	3	7	0	0	1	1	1
254	4	6	0	0	1	1	1
650	3	5	2	0	0.60	0.80	0.79
659	5	3	2	0	0.60	0.80	0.79
802	2	8	0	0	1	1	1
228	4	6	0	0	1	1	1
701	5	4	1	0	0.80	0.90	0.90
741	1	9	0	0	1	1	1
399	4	5	1	0	0.80	0.90	0.90
234	4	5	1	0	0.80	0.90	0.90
306	2	8	0	0	1	1	1
592	3	7	0	0	1	1	1
638	4	6	0	0	1	1	1
678	3	4	3	0	0.40	0.70	0.66
74	5	3	2	0	0.60	0.80	0.79
821	5	5	0	0	1	1	1
536	3	7	0	0	1	1	1
328	5	3	1	1	0.60	0.80	0.79

Psychometric Properties of the Preschool Age Psychiatric Assessment (PAPA) in Farsi: Based on DSM-5

Table 2: Expert panel opinions on cultural and social modifications to original items of PAPA.

	Clarity				Necessity				Relevance			
	Completely vague	vague	Partially clear	Completely clear	Completely non-necessitous	Partially non-necessitous	Partially necessitous	Completely necessitous	Completely non-relevant	Partially non-relevant	Partially relevant	Completely relevant
Ethnicity	0	0	1	5	0	0	1	5	0	0	2	4
Marriage	0	0	3	3	0	0	0	6	0	0	1	5
Education	0	2	3	1	0	0	0	6	0	0	1	5
Employment	1	2	1	2	0	0	3	3	0	0	1	5
Income sources	0	2	3	1	0	2	1	3	0	1	2	3
Income(annual)	1	1	1	3	0	1	2	3	0	1	3	2
Parental relationships	0	1	5	0	0	0	4	2	0	0	3	3

Table 3: Mean content validity indices for localized items.

Variables	Zone	CVR	Modified Kappa	CVI
Ethnicity	Relevance	1	1	1
	Necessity	1	1	1
	Clarity	1	1	1
Marriage	Relevance	1	1	1
	Necessity	1	1	1
	Clarity	1	1	1
Education	Relevance	1	1	1
	Necessity	1	1	1
	Clarity	0.33	0.56	0.67
Employment	Relevance	1	1	1
	Necessity	1	1	1
	Clarity	0	0.27	0.50
Income source	Relevance	0.67	0.82	0.83
	Necessity	0.33	0.56	0.67
	Clarity	0.33	0.56	0.67
Income (annual)	Relevance	0.67	0.82	0.83
	Necessity	0.67	0.82	0.83

	Clarity	0.33	0.56	0.67
Parental relationships	Relevance	1	1	1
	Necessity	1	1	1
	Clarity	0.67	0.82	0.83

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Authors' Contribution

Ayyoub Malek were major contributors to writing the manuscript. Helen Link Egger, Brian Small were the designer of PAPA Questionary in English language. Farshid Shahriari and Mohammadbagher Hassanzadeh were contributors to translat of questions in persian languages. Farshid Shahriari and Homayoun Sadeghi-Bazargani collected the data and interpreted the data. Shahrokh Amiri and Sanaz Norouzi revised and reviewed. All authors read and approved the final manuscript.

Conflict of interest

There is nothing to declare.

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