

Translation and Cross-cultural Adaptation of the Orbach & Mikulincer Mental Pain Scale Among Patients With Depression in China

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Research

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Abstract

Background Orbach & Mikulincer Mental Pain Scale assessment will be useful in identifying psychological pain level and in evaluating suicide risk. Due to the lack of a psychometrically valid tool in China, this study aims to translate the Orbach & Mikulincer Mental Pain Scale into Chinese and transculturally adapt the scale for the assessment of psychological pain of patients with depression.

Methods Translators converted English version of the instrument into Chinese according to the Brislin translation model. A two-round Delphi survey with seven experts in psychiatry, psychology and psychiatric nursing established a consensus on the Chinese version of the Orbach & Mikulincer Mental Pain Scale. Reconciled version was pretested in interviews with thirty depressed patients before finalization.

Results The prefinal Chinese version of the Orbach & Mikulincer Mental Pain Scale consisted of nine dimensions and 44 items. Effective recovery rates of two rounds of Delphi survey were both 100% and the authority coefficients were 0.871, 0.836, respectively. For the content validity, I-CVI, S-CVI/Ave in this study were 0.86-1, 0.97, respectively. During the translation, approximately 22.73% of all items were considered to be difficult to translate and 83.33% of all participants thought that these items were important. A total of thirty participants who were recruited from psychiatric department and medical psychological department of one tertiary psychiatric hospital in China took part in cognitive interviews. Most participants (n=26, 86.67%) reported that the items were easy understanding.

Conclusion Chinese version of the Orbach & Mikulincer Mental Pain Scale was translated and transculturally adapted for use in clinical setting. This is an available instrument to evaluate psychological pain level and it is highly meaningful to include the psychological pain instrument for suicide risk.

Background

As a chronic psychiatric disease, depression is a serious public health matter with high recurrence rate and suicide rate which contributes greatly to the global burden of disease, the effect of depression can be long-lasting and can dramatically impact individual's ability to function. Currently, there is an estimated 264 million people suffered from depression worldwide[1]. The prevalence of depression in China has increased to 2.1% in 2020[2], this mental disorder not only causes the enormous burden for public health system but also adversely affects psychosomatic health of people. The death toll caused by depression accounts for 1/3 to 1/2 of suicide population[3], obviously, the situation is sobering. Among numerous influencing factors contributed to suicide, psychological pain is one of the most important risk factors, playing a mediating role in the association[4].

The close bond between depression and painful emotion has been mentioned in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5)[5]. As proposed by Shneidman, psychological pain, defined as an introspective experience of aversive emotions such as dread, despair, fear, grief, shame,

guilt, frustrated love, loneliness and loss[6]. The significant association between psychological pain and suicidality in depressed patients recently has been confirmed by ample empirical evidence that psychological pain is a core risk factor for suicidal ideation and act during major depressive episodes[7–9]. The result of Olié et al. further manifests that the higher propensity for psychological pain was a prominent trait of vulnerability to suicidality by comparing recent suicide attempters, depressed patients with a past history of suicidal acts and non-attempters[10]. Furthermore, by employing the stepwise regression analyses, Li et al. has confirmed that pain avoidance (the action tendency to escape from psychological pain) of three-dimensional psychological pain model (pain avoidance, pain experience, pain arousal) has the largest contribution to the prediction of suicidal ideation in a sample of depressed individuals at the most severe time[11].

Emerging studies have found suicide as a goal-oriented behavior to escaping from the “unbearable” psychological pain[12, 13], in other words, suicide is a problem-solving method for the sake of stop inner painful state, in agreement, the concept is also mentioned in the Shneidman’s theory of suicide[6] and Baumeister’s escape theory of suicide[14]. As a prominent symptom in people with depression[15], psychological pain is a crucial indicator of the prediction of suicidal risk among people with depression. The plan for a Healthy China 2030 points out the need for strengthening construction of mental health service system and standardized management and underpinning the interventions in depression and psychological behavior problems[16]. Of these, the early estimate of psychological pain is not only the key to prevent suicide but also the premise of the implementation of mental health service.

Up to now, there are approximately ten instruments developed to evaluate psychological pain, such as Psychic Pain Scale (PPS)[17], Psychache Scale (PAS)[18], The Orbach & Mikulincer Mental Pain Scale (OMMP)[19], etc. Of these instruments, OMMP is a multidimensional scale that is constructed by Orbach and Mikulincer on the basis of the principle of grounded theory and content analysis. This scale consists of nine dimensions (frozen, irreversibility, loss of control, narcissist wounds, emotional flooding, freezing, self-estrangement, social distancing, emptiness) and forty-four items relating to the experience of mental pain. Each item is rated on a 5-point Likert-type scale (1-strongly disagree with to 5-strongly agree with), with higher total scores showing greater psychological pain. The items involved in physical and psychological components correctly show the emotion characteristics and physical manifestations of patients with depression. Accumulated research has provided support for the good predictive validity for suicidal risk and excellent internal consistency reliability of OMMP scale in the sample of patients with depression[20, 21]. The instrument is well validated in diversity population, including patients admitted for suicide attempt[22, 23], university students[24] and depressed patients[25, 26].

To date, OMMP scale has been translated into Italian[27] and English, however, there is no Chinese version. Within this context, the present study sets out to translate and cross-culturally adapt OMMP scale in compliance with the Brislin translation model so as to offer a valid measurement to accurately evaluate the level of psychological pain and suicidal risk among depressed patients, further improving the clinical safety management system and decreasing the proportion of suicide.

Methods

Ethical considerations

The research protocol was approved by the Institutional Review Board of The Affiliated Brain Hospital of Nanjing Medical University (Approval No. 2021KY02801). Prior to the investigation, all participants meeting the inclusion criteria signed the informed consents and were informed of the objectives of the study, confidentiality of personal information and the right to withdraw from the study by investigators.

Participants

Thirty participants were selected for the pre-test [28], they were recruited from psychiatric department and medical psychological department of one tertiary psychiatric hospital in China in July 2020.

Inclusion criteria were as follow: (a) age 18-60 years old; (b) with a diagnosis of depression as confirmed by a medical professional according to the International Classification of Diseases, 10th Edition (ICD-10); (c) volunteered to participant in this study and signed an informed consent.

Exclusion criteria were as follow: (a) with somatic diseases; (b) with cognitive impairment and communication disability.

Data collection

The data collection was completed by three investigators (all were research members in this study) through convenient sampling. To ensure the consistency of data collection, three investigators took part in training sessions in which they were trained to use identical introduction, evaluation criteria and were asked to complete the Chinese version of OMMP scale for the same subject to check for the discrepancy. Eligible participants in the study signed the informed consents and were introduced the purpose of the study and requirements for filling in OMMP scale. During the investigation, investigators read out all items and filled in the questionnaires if the participants were illiterate or had blurred vision. After the completion of the scale, participants were interviewed face-to-face with regard to the OMMP scale.

Design

The research group consisted of six members, including one psychiatric nurse-in-charge and one psychiatric chief physician, one professor of nursing, three graduate students of psychiatric nursing. Before the research, the project manager introduced the significance, procedure, clinical value of the present study, all members in the team were mainly responsible for literature review, translation, drafts revision and expert selection. This study was divided into two sections: Phase 1: forward-translation, back-translation and cross-cultural adaptation were conducted to finalize the Chinese version of OMMP scale, we applied the multi-step forward-backward translation techniques of Brislin translational model and a two-round modified Delphi process in the current study. Phase 2: the prefinal Chinese OMMP scale

was pretested in a sample of thirty depressed patients via a cross-sectional survey. The implementation process is presented in Fig.1.

Step 1: Forward-translation

Two native Chinese translators (T1, T2) were invited to participate in the forward-translation to independently translate the English version of the original scale into Chinese version. One of the translators (T1) had more than five years of working experience in psychiatric department with the certificate of Test for English Majors-Band 8 (TEM-8), the other was a college teacher with a postmaster degree in linguistics (T2). Then the two Chinese drafts (V1, V2) were integrated into one draft (V3) by research manager after discussion with group members.

Step 2: Back-translation

The Chinese version was separately translated back into English (V4, V5) by two bilingual translators who previously had no access to the original scale and were knowledgeable of Chinese and English-speaking culture. One of them was a graduate student of nursing with overseas education background (BT1), the other one was an associate professor of nursing with British visiting experience (BT2). Two back-translated versions were synthesized into one draft (V6) by research manager after coordination with group members. Subsequently, the integrated draft (V6) and the original scale were examined and compared by an expert who is familiar with the Chinese and English expressions and language cultures. This expert proposed several amendments that served as a guide for researchers to ensure equivalence and consistency in terms of wording, concept and semantics. Finally, the first Chinese version of OMMP scale formed.

Step 3: Cultural adaptation (a two-round Delphi survey and pilot testing)

An e-Delphi technique was employed in the cross-cultural adaptation via publicly available emails, online questionnaires were administered to seven experts in the field of psychiatry, psychiatric nursing and psychology. The questionnaire consisted of three parts: 1) The basic information questionnaire of experts; 2) The Chinese and English statement lists; 3) The expert's authority questionnaire. For the content validity index (CVI), experts were asked to evaluate each item for relevance, the relevance used a 4-point Likert scale in which 1-completely irrelevant, 2-irrelevant, 3-relevant, 4-completely relevant. For the concordance among experts, the importance of each item was rated by experts which was scored on a 5-point Likert-type scale (5-very important, 4-important, 3-average, 2-unimportant, 1-very unimportant). Additionally, experts were advised to put forward comments on semantic, idiomatic and conceptual aspects and to complete questionnaires in two weeks. The feedback was organized into a summary by two research members and presented to the research team. After the first round of the Delphi study, the response and outcome were refined from the collected data. Statements that didn't achieve agreement in R1 were sent back to the same expert group for review in the second of Delphi study after revision. R2 was again done in the form of online questionnaire. Similar to R1, the data obtained from R2 was

analyzed by research members. The time interval between two rounds of survey was two weeks, in order to avoid interaction effect between the results of two rounds of Delphi survey[29].

The pretest was conducted on thirty hospitalized patients from psychiatric department and medical psychology department. During the investigation, the items were read or further explained by investigators if the patients were illiterate or had blurred vision, and the complete time was also calculated. When finished the questionnaires, participants were inquired about the understandability and clarity of the pre-final Chinese version of OMMP scale and were asked to provide some suggestions via face-to-face interviews, the feedback was recorded by investigators and used for modification by group members. After the above steps, the final Chinese version of OMMP scale was determined.

Statistical analysis

Data were analyzed using the Statistical Package for the Social Sciences (SPSS), Version 25.0. Descriptive data were expressed in coefficient of variation (CV), active coefficient and authority coefficient (Cr) of experts as well as consistency of expert (W). The value of CVI (I-CVI, S-CVI/Ave) estimating the content validity and the value of Kendall's W were calculated by Excel software.

Results

Forward translation and back translation

Revision occurred either after the translation review, or after the pretest, approximately 22.73% of all items were considered to be difficult for translators. Differing from symptom assessment scales, the OMMP scale focused on the individual's psychology so that partial statements were comparatively abstract. During the translation, the main issue was how to make the items easy to interpret under semantic consistency, e.g., "nobody is interested in me," the item concentrated on individual's inferiority complex, but the literal translation resulted in the change of meaning and probably confused recipients, in order to avoid the mistake and accord with the inner state of depressed patients, in the end, "care about" came to replace "interested in" to ensure the item was understood after several harmonization discussions with group members. Some items also had the overlap of implication, e.g., "I feel numb and not alive" and "I feel paralyzed", the purpose and meaning of the two items were conceptually hard to be differentiated in China, which both implies immobility, thus division arose over the interpretation of the words ("numb" vs "paralyzed") among translators. By referring to Oxford English Dictionary and consulting psychiatric physician, translators eventually reached an agreement and held that "numb" was prone to emotional frozen, but "paralyzed" emphasized body frozen.

Delphi survey

Of seven surveys distributed, seven experts both responded (100%) in R1 and R2, they were from two tertiary psychiatry hospitals and one collage in Jiangsu Province and Beijing. Of these experts, 85.71% of them had postmaster degrees or above, with the specialties in psychiatric nursing, psychology and

psychiatry. The characteristics of experts are shown in Table 1. The recovery rates indicate the positive coefficients of experts which were both 100% in the two rounds of Delphi survey. Kendall coordination coefficients (W) were used to express the experts' concordance which were, respectively, 0.235 and 0.219, both Kendall's W has statistical significance ($p < 0.05$) in two rounds of Delphi survey. Coefficient of variation (CV) both ranged from 0.10 to 0.12. As is shown in Table 2. The degree of specialist authority (Cr) which is composed of judge basis and familiarity degree was 0.871 and 0.836, respectively. As is shown in Table 3. The CVI was determined to be greater than the 0.05 significance level. Item-level CVI (I-CVI) ranged from 0.86 to 1.0. Scale-level CVI (S-CVI) on the entire instrument was 0.97 which were both > 0.80 regarded as equivalent to the translated version and original version[30]. As is shown in Table 4.

Consensus was achieved on 29 of 44 items in R1, the remaining 15 items (34.09%) did not reach consensus, the recommendations from experts mainly concentrated on ambiguous expression, inaccurate wording and superfluous words. Based on the feedback from experts, 9 of 15 items were appropriately modified by research group, and the rest of items were not amended due to some viewpoints were hard to have decisive effect on optimizing the items. Later, the refutable reasons and revised statements were sent to experts in R2. In the end, all statements achieved consensus. Table 5 shows the main cultural adjustments in R1.

Pre-test

For the pre-test, thirty patients with depression who were consistent with the eligible criteria were included. Among the participants, 19 (63.33%) were female, with a mean age of 37.03 years (ranged 18-60 years old); 22 (73.33%) had a family history of mental illness; 19 (63.33%) had a history of self-injurious or suicide; 14 (46.67%) reported that frequency of recurrence \geq once; 24 (80%) of participants showed moderate or above depression. Table 6 demonstrates the demographic and clinical-related characteristics of the participants.

The purpose of pilot-testing was to identify underlying problems in interpreting these items for depressed patients, in view to adjusting words for adaptation to the Chinese culture. Thus, cognitive interviews were held to enquire the following questions with regard to the comprehensibility, readability and suitability of the items of OMMP scale:

- Do you think all items can correctly express your inner painful experience?
- Do you think all items are understandable?
- Do you think all items are important to you?
- What do you think all items of OMMP scale in general?

In total, 93.33% of patients deemed that OMMP scale could exactly express their inner painful experience in general, 86.67% of patients thought the scale was understandable, and 83.33% of participants thought that these items were important to them, the results of pretest were quantitatively analyzed and displayed in Table 7. Yet participants held that these items (1, 2, 8, 9, 28) were short of targeted aspect, e.g., "I feel

confused”, researchers needed to clearly clarify the specific aspect that confused patients. Also, an average completion time was approximately three to four minutes per questionnaire.

Discussion

Although multiple measurements have been developed to evaluate psychological pain in the Western countries. However, a focal and effective evaluation tool tailored to depressed population is deficient for psychiatric staffs in China, the possible explanation for this is that psychological pain itself is a complicated construct that increases the complexity to design a measurement tool, processing theory of emotion has pointed out that emotion is composed of five elements, including cognitive evaluation, physical symptom, expression, psychological feeling and behavior tendency[31], lacking for relevant studies on psychological pain in China results in the insufficient knowledge of this painful experience among depressed patients. The present study aims to provide a measurement tool to help health professionals evaluate patients’ psychological pain level. Furthermore, the lifetime risk for suicide in patients with major depressive disorder (MDD) has a 10 folds higher than general population[32]. The assessment of psychological pain in this patient population may help in the identification of high suicide risk group, so it is highly meaningful to include the psychological pain instrument into risk assessment combined with measures of depression and hopelessness for improve the accuracy of suicide risk prediction, which is also mentioned by Verrocchio et al. [33] Because of psychology assessment tools are susceptible to culture values, it is undeniable that OMMP scale is even more in need of an examine to address whether it is applicable to Chinese depressed patients.

In the present study, researchers applied a widely used translation method for conducting a translation-back-translation procedure. To our knowledge, it is the first study to culturally adapt OMMP scale that measures levels of psychological pain in patients with depression in China. During the process of translation, minor discrepancies between translators were coordinated via discussion, expert consultations, literature review. Still, items with abstract words or concept (e.g., I am flooded by many feelings) were challenging for translators, OMMP scale concentrates on individual’s mentality and emotion and has scant usage of professional terms, greatly increasing the difficult of translation. In spite of this study abides by the rigorous translation flow path, we still deemed that it would be best to include bilingual patients with depression or use item definition before the translation so as to achieve equivalence in the highest measure, this idea is similar to the one by Devine et al. [34]

During the cross-cultural adaptation, a two-round online Delphi survey with seven experts was performed to reach a content equivalence. A panel of experts shows an excellent professional level in this study. Besides, researchers appropriately modified partial items on the basis of experts’ feedback, however, given that Chinese habitual expression and understandability, not all the revision comments were embraced. Consequently, suggestions are provided to pertinently modify these items on the premise of fully considering the actual situation, rather than completely accept.

Overall, the items of the OMMP scale were able to reflect patients' real inner feeling and were accepted well by participants. Majority participants showed moderate or above depression and 66.67% participants had an educational level of undergraduate or above in the pre-test, the diversity among participants is less. Moreover, researchers found that participants with high levels of depression preferred the statements of OMMP scale during the cognitive interviews. As a result, depression severity and education background potentially affect participants' comprehension in items. Following research should include various participants with different background as far as possible to decrease the results bias.

There are several limitations in the present study: First, this study was conducted in one psychiatry hospital in Nanjing and the sample size in the pretest was comparatively small so that the results may not be generalized to all of participants, to further evaluate the psychometric properties of this tool, a multi-center investigation with a large sample of depressed patients in China is needed. Second, there are some suggestions proposed by participants in the pretest could not be complete due to the change of the original meanings. Third, a Delphi method which may not as convenient as face-to-face interview, was adopted in the current study, researchers probably were unable to accurately acquire available feedback.

Conclusion

In general, the results of the present study are indicative of the equivalence between Chinese version of the OMMP scale and original tool in English. The translation is well accepted and easily understood by patients. It is hope that this scale as a measurement to assess psychological pain in depressed patients have a critical influence on clinical mental health in China.

Abbreviations

OMMP Scale: the Orbach & Mikulincer Mental Pain Scale

Declarations

Ethics approval and consent to participate: The study was approved by the Ethics Committee of The Affiliated Brain Hospital of Nanjing Medical University in Jiangsu Province, China (Approval No. 2021KY02801). All the questionnaires were completed anonymously, patient's personal information wasn't viewed by non-members of the present project. Prior to the investigation, all participants signed informed consents and were informed of the right to withdraw from the research.

Consent for publication: No applicable.

Availability of data and materials: The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Competing Interests: No conflict of any interests.

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Authors' contributions: Yanhong Zhang was responsible for the manuscript revision and the review of translational drafts. Yin Cheng was responsible for literature review, data collection, study design and composition of the article. Shuyan Chen and Weiwei Zhao were responsible for data collection, result analysis and revision of the manuscript. Zhaoqin Wang, Yufeng Zhou, Ge Zhang and Tingting Wang were responsible for forward-backward translation.

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Tables

Table 1.

Characteristics of the experts (n=7)

Item		Number	Percentage (%)
Age	31-40	2	28.57
	41-50	4	57.14
	51-60	1	14.29
	>60	0	0.00
Education background	Undergraduate	1	14.29
	Master	3	42.86
	PhD	3	42.86
Working year	5-10	1	14.29
	11-20	1	14.29
	21-30	5	71.43
	>30	0	0.00
Positional title	Chief physician	4	57.14
	Nurse-in-charge	1	14.29
	Associate chief physician	1	14.29
	Associate professor	1	14.29
Research field	Psychiatric nursing	1	14.29
	Psychiatry	5	71.43
	Psychology	1	14.29

Table 2.

Coordination coefficient of experts

Round	<i>df</i>	Kendall's <i>W</i>	χ^2	<i>P</i>	CV
1	43	0.235	70.666	0.005	0.10-0.12
2	43	0.219	65.827	0.014	0.10-0.12

Table 3.

The authority of experts

Round	judgement coefficient (Ca)	familiarity degree (Cs)	authority coefficient (Cr)
1	0.943	0.786	0.871
2	0.914	0.757	0.836

Table 4.

Content validity index

Item-CVI	Average S-CVI (S-CVI/Ave)
0.86-1	0.97

Table 5.

Amendments of the first round of Delphi survey

Item	Original version	Back-translation version	Chinese version before adapted	Adapted Chinese version	Suggestions
2	I am completely helpless.	I feel helpless.	完全无助	无助	Ommit "完全" to make the sentence more concise.
14	My feelings change all the time.	My mood is always changing.	情绪总是变化 情绪	情绪总是变化 情绪	The substitution of the term "情绪" by "心境" makes the wording more accurate.
21	I cannot trust myself.	I don't believe in myself.	不相信自己	不相信自己	The substitution of the term "不" by "不信任" makes the sentence more consistent with Chinese expression
22	The difficult situation will never change.	The dilemma can never be changed and will continue.	困境永远无法改变 困境	困境永远无法改变 困境	Ommit "困境" to change the sentence from passive voice into active voice.
29	I will never be able to reduce my pain.	I can never relieve my pain.	永远无法减轻痛苦 痛苦	永远无法减轻痛苦 痛苦	Ommit "痛苦"
30	My life has stopped.	My life has stopped.	生活已经停止 生活	生活已经停止 生活	The substitution of the term "生活" by "生命" makes the sentence more accord with the inner feeling of depressed patients.
35	There are strong ups and downs in my feelings.	I have a lot of emotional ups and downs.	情绪起伏很大 情绪	情绪起伏很大 情绪	The substitution of the term "情绪" by "情绪波动" makes the wording more accurate.
36	I have no control over the situation.	I cannot control the situation.	无法控制局面	无法控制局面 局面	The substitution of the term "局面" by "情况" makes the sentence more understandable and specific.
44	The pain will never go away.	Pain will never go away.	痛苦永远不会消失	痛苦永远不会消失 痛苦	add "心理" to identify the psychological aspect of pain.

Table 6.

Demographic and clinical characteristics of the participants (n=30)

Characteristic	Value
Age	
Mean	37.03
Range (min, max)	(18, 60)
Education level (%)	
Illiterate or primary school	2 (6.67%)
Secondary school	4 (13.33%)
High school	4 (13.33%)
University or above	20 (66.67%)
Gender (%)	
Female	19 (63.33%)
Male	11 (36.67%)
Depression severity (%)	
Mild	6 (20%)
Moderate	19 (63.33%)
Severe	5 (16.67%)
Family history of mental illness (%)	
No	22 (73.33%)
Yes	8 (26.67%)
Frequency of recurrence (%)	
First episode	16 (53.33%)
Once	5 (16.67%)
Twice	5 (16.67%)
Three times	2 (6.67%)
Four or above times	2 (6.67%)
History of self-injury or suicide (%)	
No	19 (63.33%)

Yes

11 (36.67%)

Table 7.

Assessment results for the pre-test of OMMP scale.

Items describing participants' general impressions	Alternative answers	Answers (%)
Do you think all items can correctly express your inner painful experience?	Yes	93.33
	No	6.67
Do you think all items are understandable?	Yes	86.67
	No	13.33
Do you think the items are important to you?	Yes	83.33
	No	16.67
What do you think the items of OMMP scale in general?	Very good	23.33
	Good	60
	Not so good	16.67

Figures

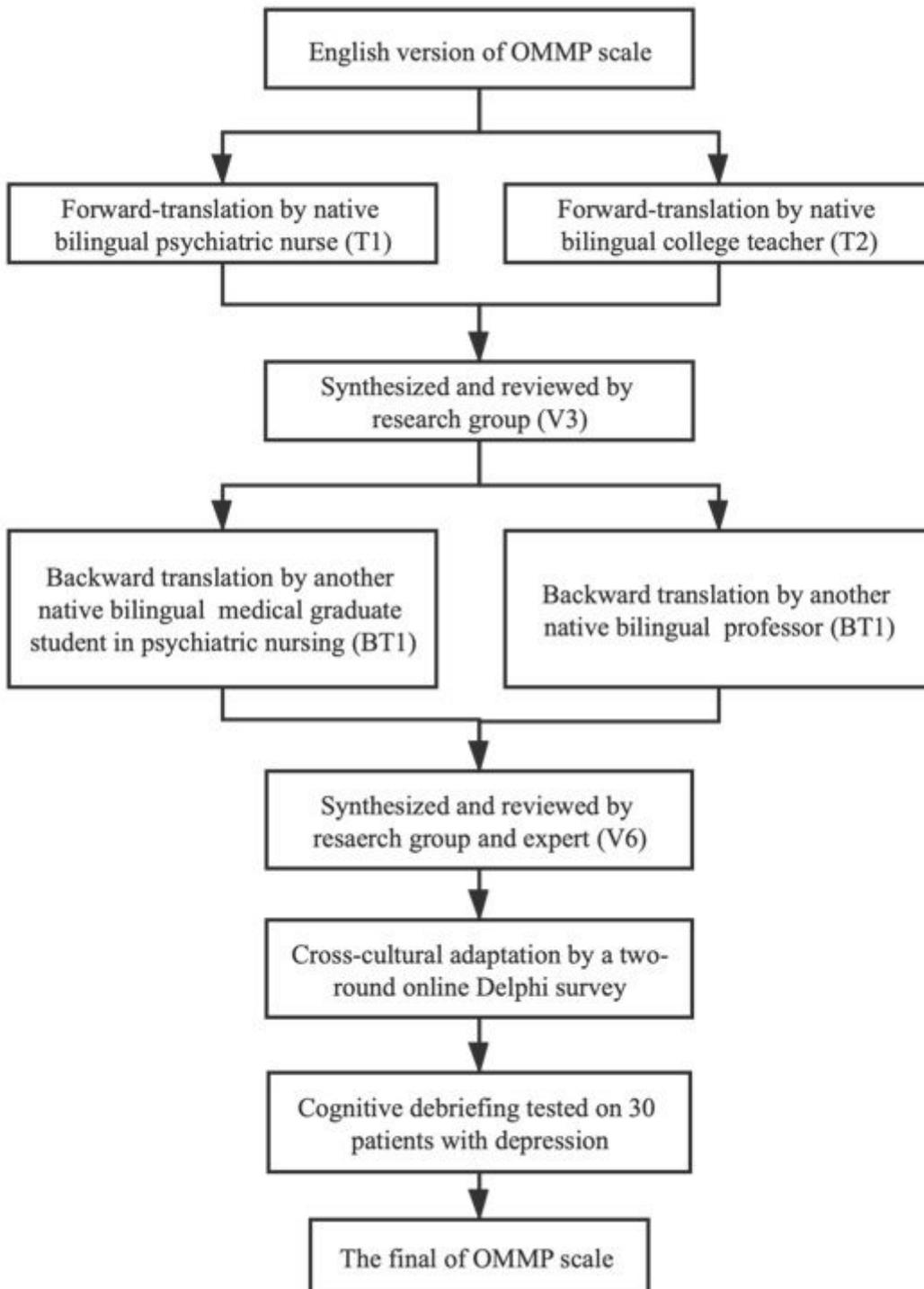


Figure 1

Translation and cross-cultural adaptation for the Chinese version of OMMP scale