Remittances Review
August 2024,
Volume: 9, No: 4, pp.1136-1156
ISSN: 2059-6588(Print) | ISSN 2059-6596(Online)
Received : 30 July 2024, Accepted: 27 August 2024
DOI: https://doi.org/10.33282/rr.vx9i2.64

Translation and cross-cultural adaptation of the Leicester Cough Questionnaire into Urdu: A descriptive study

Urshia Noor[a], Mehwish Waseem[b], Naveed Yaqoob[c], Uzair Ahmad[d], Muheebur Rehman[e*], Danish Ali Khan[d]

[a]*Physiotherapy department, Peshawar Institute of Cardiology, Peshawar, Pakistan*

[b]*Faculty of Rehabilitation and Allied health Sciences, Riphah International University, Islamabad, Pakistan*

[c]*Federal Government Polyclinic, Islamabad, Pakistan*

[d]*College of Physical Therapy, Northwest Institute of Health Sciences, Peshawar, Pakistan*

[e]*Department of Allied Health & Biological Science, Abasyn University, Peshawar, Pakistan*

Correspondence (for publication) for contact purposes only:

Name	Muheebur Rehman
Department	Allied Health & Biological Science
Institution	Abasyn University Peshawar
Country	Pakistan
Email	muheebjan291@yahoo.com

- *(Urshia Noor, Mehwish Waseem, Uzair Ahmad)* Substantial contributions to the conception, design of the work, acquisition, analysis, and interpretation of data for the work
- *(Naveed Yaqoob, Danish Ali Khan)* Drafting the work and revising it critically for important intellectual content
- *(Muheebur Rehman)* Final approval of the version to be published

***Word Count**:* 2881 (Introduction, Method, Results, Discussion)
***References**:* *37*
***Tables**:* *5*
***Figures**:* *1*

Remittances Review
August 2024,
Volume: 9, No: 4, pp.1136-1156
ISSN: 2059-6588(Print) | ISSN 2059-6596(Online)

Abstract

Purpose: This study aimed to translate the Leicester Cough Questionnaire (LCQ) into Urdu language and to test the validity, and reliability of the LCQ into Urdu version called LCQ-U, in those patients who have chronic respiratory conditions.

Method: The original LCQ was translated into Urdu version by a process, following the forward-backward translation method, reviewed by 10 experts, pretested for lingual problems and assessed in 17 patients with chronic respiratory conditions. To test reliability, the LCQ-U was repeated after 2 weeks. The cough severity was also assessed by using the Cough visual analogue scale.

Results: Analysis of concurrent validity showed that LCQ has a strong negative correlation with the Cough Visual Analogue Scale (r = - 0.89, P>0.05). The LCQ-U indicated a strong correlation (r = 0.965, P<0.01) and strong test-retest reliability (ICC_1 = 0.920, ICC_2 = 0.920, P<0.01). Cronbach's alpha coefficient was found 0.922 on 1st visit and 0.921 on 2nd visit respectively. The content validity index scoring was estimated as S-CVI/UA = 0.89, S-CVI/Av = 0.98).

Conclusion: The Urdu version of LCQ is a valid and reliable tool that can be used in different clinical settings to assess the chronic cough of patients with chronic respiratory conditions.

Keywords: Cough, Chronic obstructive pulmonary diseases, Translations, Questionnaire

Introduction

In general practice, cough is a very important symptomatic condition, and is considered the most common cause for people needing medical attention [1-4]. Coughing has a strong negative impact on the quality of life (QoL) especially chronic cough [5-7]. The information regarding the long-term outcomes of chronic cough and its factors may be useful to guide the management of

patients who have a chronic cough [1]. Often, coughing is a self-limiting and acute condition. Although, in a notable number of patients, coughing can manifest itself as a chronic symptomatic disease [3,8,9]. Persisted coughing that has been found for more than 3 weeks is sub-acute (i.e. 3- 8 weeks) or chronic (> 8 weeks) [8,10,11]. About 15 % of non-smokers complain of chronic cough [11]. Chronic cough is a common symptom with approximately 20–40% of incidence [12-14]. About 10% of the current patients observed in the clinical area's outpatient department were sent to the pulmonology specialist for the symptoms of cough [12,15]. It has been reported that about 20% of the UK population have a persistent chronic cough and patients with cough take doses of 75 million cough-suppressing medicines per year [4,13]. Cough is referred to as a protective reflex that extracts a large amount of inhaled foreign objects or particles and secretions through the respiratory tract. Chronic cough can seriously affect the patient's condition and his or her environment, and finding the reason for the cough can be difficult to find [11]. However, the most common causes of chronic cough are diseases of the upper airway, asthma, postnasal drip syndrome, GERD, eosinophilic bronchitis, rhino sinusitis and chronic obstructive pulmonary disease (COPD) [8,10,12]. In chronic conditions including COPD, particular questionnaires are required to properly assess the symptoms of the disease which is more relevant to the condition of the disease, to investigate the effects and consequent limitations in daily living and to determine the treatment effects [11]. Health screening is becoming increasingly substantial for respiratory conditions and has been studied widely for COPD and asthmatic conditions by the formation of questionnaires which are specific to the disease condition. Too little is discovered about the consequences of persistent cough in a healthy state because of the absence of valid questionnaires [4,16].

There are various forms of tools or outcome measures which can be utilized to figure out and classify cough which are digital cough monitors [17], health status questionnaires which are cough specific like the Leicester Cough Questionnaire (LCQ) and cough visual analogue scales [18,19]. Now a days, "there are two well developed questionnaires which determine the quality of life in patients having cough: the Cough Specific Quality-of-Life Questionnaire (CQLQ) developed by France et al. and the Leicester Cough Questionnaire (LCQ), developed and validated by Birring et al." [4] to evaluate this symptom and its effect on the patient's health status who have chronic cough [10,20]. The Leicester Cough Questionnaire (LCQ), most commonly used "cough-specific quality-of-life questionnaire", is susceptible and repetitive, and it corresponds with the frequency of coughing in chronic cough condition. LCQ can also be utilized to evaluate the cough's temporal course and to check the feedback of intervention. LCQ is self-regulating and needs to be completed in < 5 minutes. It consists of 19 items that have a 7-point Likert type response format, which is further divided into three categories: "physical (questions 1, 2, 3, 9, 10, 11, 14, and 15), psychological (questions 4, 5, 6, 12, 13, 16, and 17) and social (questions 7, 8, 18, and 19)" [21]. LCQ is a standard scale which is originally designed in the English language. There must be a translated version into the targeted language and accepted by the social and cultural environment of the targeted population of the country; or else, any other scale should be designed [21]. There are already many translated versions available of the LCQ questionnaire such as the German version [22], Swedish version [23], Thai version [24], Spanish version [25], Portuguese [26], Mandarian Chinese version [27], Polish version [28], and Dutch version [29]. However, the cultural adaptation of psychometric parameters is a complicated procedure that needs translated forms which is conceptually like the actual and culturally adaptable version in the targeted population of the e was no literature found on the

Urdu version of the LCQ in Pakistan. Therefore, this aimed to translate the Leicester cough questionnaire (LCQ) into Urdu language (LCQ-U) and to determine its cross-cultural adaptation among the Pakistani population with chronic cough.

Methodology

Participants

A descriptive-based study was conducted at the Peshawar Institute of Cardiology, Pakistan from January 2021 to January 2022. The sample size was calculated by the Bonett formula. A Calculated sample size was n=17. The patients with chronic respiratory disease with no restrictions on age, having sub-acute and chronic cough for 3 or more weeks, and who can read English and Urdu were included in a study via non-probability purposive sampling technique. A patient was excluded from study, if having a disease that seriously affected the quality of life such as liver cirrhosis, chronic renal failure, neurologically deficit and disabled patients and acute Exacerbation of the respiratory disease.

This study has followed the tenets of the Declaration of Helsinki and has been approved by the review board of Riphah College of Rehabilitation & Allied Health Sciences Islamabad, Riphah university Islamabad (Ref: RIPHAH/RCRS/REC/Letter-01090). All participants in this study have given their written informed consent.

Outcome measures

The data was collected through Leicester cough questionnaire (LCQ) and Cough Visual Analogue Scale (VAS).

The Leicester Cough Questionnaire (LCQ), most commonly used “cough-specific quality-of-life questionnaire”, is susceptible and repetitive, and it corresponds with the frequency

of coughing in chronic cough conditions. LCQ can also be utilized to evaluate the cough's temporal course and to check the feedback of intervention. LCQ is self-regulating and needs to be completed in < 5 minutes [21]. It consists of 19 items that have a 7-point Likert type response format, which is further divided into three categories: "physical (questions 1, 2, 3, 9, 10, 11, 14, and 15), psychological (questions 4, 5, 6, 12, 13, 16, and 17) and social (questions 7, 8, 18, and 19)". Answers are given on a Likert-type scale from 1 to 7 points. For calculation of the LCQ rating score, the points which are designated to each question of each domain should be combined and subdivided by the total of questions per domain that ranks from 3 to 21, the values which are closer to 21 indicates a good status of health or a weak influence of coughing on the quality of patient health [21].

The Cough Visual Analogue Scale (VAS) uses a linear scoring process which consists of straight lines measuring 0, 1, 2 to 10 cm (lines in the scale are marked from 0 to 100 mm can also be applied); 0 shows asymptomatic, and 10 indicates the most serious [30,31]. The patient is asked to mark the cough severity in a straight line based on self-perception, and the score is measured as the distance between the beginning point and the point marked by the patient. Different studies have revealed the potential of a VAS to assess the symptoms independently and show the disease severity. "The minimal important difference (MID) of the VAS" for the acute cough was recorded to be 17 mm [19,30], while the MID for those who have chronic cough has limited published data till now. In the clinical setting, the VAS is commonly used in the subjective and extensive examination of cough, either chronic or acute cough [30,32,33]. This scoring method is very simple and easy and has less impact on the language as compared to the other procedure. Furthermore, the VAS shows a great response in terms of symptomatic changes and that is why it is usually used as a sign of interventional effects in relative studies [30,32].

Procedure

Firstly, we followed the five steps of the translation process recommended by WHO, then we applied to face and content validity through expert review and Likert scale. Furthermore, content and construct validity were applied through correlation between Urdu and English version of LCQ questionnaire and then correlation between VAS and LCQ was also assessed. Lastly, the questionnaire was reapplied with an interval between 10 days to assess test-retest reliability. The patient's baseline information e.g. demographic data and history was taken initially. Then patient response was checked on translated Urdu version & then back translation into Urdu to English. The whole procedure was performed in a following manner (fig 1).

Tool translation process

Translation of English version of LCQ into Urdu version was done through "Translation Legal Center, Islamabad Pakistan" using following steps of WHO translation process [34]: (1) Forward translation by bilingual expert, (2) Reassessment by Expert panel, (3) Backward translation by bilingual expert, (4) Pre testing & cognitive interviewing, (5) Drafting of final version by bilingual experts.

Forward translation

The professionals, native speakers of Pakistan from "Translation Legal Center, Pakistan" translate the English version of LCQ into Urdu. The translation approach emphasized conceptual rather than literary translations and used natural and acceptable language for a large population

Back translation

The LCQ version in Urdu was then blindly translated into English by the professional's English speakers without knowing the questionnaire to check the accuracy. Using the same approach as in the first stages.

Expert committee

Committee members included experts (10 experts who have 10 years of clinical experiences) who were familiar with the construct of interest, a methodologist, and both the forward and backward translators. The "expert committee reviewed all versions of the translations and determine whether the translated and original versions achieve semantic, idiomatic, experiential, and conceptual equivalence". The discrepancies found was resolved, and the expert committee reached a consensus on all the items to create a Pre-final version of the translated questionnaire.

Final version

The translator examined the original English version of LCQ to identify a potential issue that needed to be addressed to clarify the translation. All versions described above resulted in the final version of the tool in the target language.

Psychometric validation

We applied face and content validity through expert review and Likert scale. Moreover, Content validity was calculated with the expert reviews and concurrent validity was assessed of Urdu translated version with the Cough VAS. The same examiner reapplied the questionnaire personally or by phone with an interval between 2 weeks to assess the test-retest reliability.

Results

A descriptive Study was conducted on cross culture adaptation of LCQ in Urdu version. The team of experts (10 experts who have 10 years of clinical experiences) gave their reviews on both the forward and back translations, face and content validity were checked through dichotomous scale, symbol plate and Likert scale. Pre-testing was done on 10 chronic cough populations who have chronic respiratory conditions. The data was collected on Urdu version of LCQ with the difference of 2 weeks to assess the test-retest reliability. The mean (SD) age of the patients was 45.29 (16.28) year. Most of the patients was suffering from chronic cough (>8 weeks) having a percentage of 88.2. About 52.9 percent have a cough severity of moderate to worst. Among all, 41.1 percent were diagnosed with bronchial asthma followed by COPD (23.5%) (table 1).

Expert Panel

Face validity by a panel of experts was reviewed on dichotomous scale as “YES” and “NO”. “LIKERT and SYMBOL PLATE both were used by panel of experts to access the content validity”.

Face Validity

The panel of experts answered in response to “Phrases content is clear or not?” A total of 100% (n=10) reported yes for question 1,2,3,4,5,6,8,9,10,11,14,15,16,17,18 and 0% (n=0) report no for question 1,2,3,4,5,6,8,9,10,11,14,15,16,17,18. A 60% (n=6) reported yes from question 7 and 40% (n=4) report no for question no 7. A total of 80% (n=8) reported yes from question

12,13 and 20% (n=2) report no for question no 12,13 and 90% (n=9) reported yes from question 19 and 10% (n=1) report no for question no 19 (table 3).

Content Validity (Likert Scale)

A 40% (n=4) reported understandable for item 1,2,5,6,9,10,12,14,15,16,17,18 while 30% (n=3) reported more understandable for item 1,6,7,15 and 30% (n=3) reported most understandable for item 1,6,11,12,15,19 (table 4).

Content Validity (Symbol Plate)

Regarding the relevance of the items, 90% (n=9) rated very relevant for item 1,2,6,8,11,17. When ask about the clarity of the items, 100% (n=10) rated very clear for item 6,8,9,10,15,18. When asked about the simplicity of the items, 100% (n=10) rated very simple for item 3,8,9,10,15,16,18 while ambiguity of items, 80% (n=8) rated meaning is clear for item 1,2,3,4,5 (table 5).

Content Validity Index

Items content validity index and scale content validity index (on both Universal Agreement and Average) was calculated. The Item content validity index (I-CVI) for all the items was 1 except for Item # 13 and Item # 19, which are 0.9 and 0.8 respectively. Moreover, on scale validity index, the Universal agreement was calculated as 0.89 and Average was 0.98. This showed that the experts found this scale with excellent content validity (table 2).

Pilot Testing

Pretested was done on 10 chronic cough population in which 20% (n=2) were female and 80% (n=8) were male. The mean age of the pretest population was 53.10 ± 14.57 respectively. However, when the scores of each domain were analyzed, the physical score reported as 3.18 ± 1.13, psychological score as 3.67 ± 1.530 and social score as 2.68 ± 1.496. While the total score was reported as 3.29 ± 1.192 (table 1).

Reliability

For test retest reliability, strong negative relationship was found between the two measures of LCQ and Cough VAS (r = - 0.89, P = 0.735) indicating that if score increases on one scale, while it decreases on another scale. However, there was strong significance found between two scores of total samples 1 and 2 (following 2 weeks) (r= 0.965, P=0.000) and Intraclass correlation coefficient of total sample 1 was found 0.920, while ICC of total sample 2 was found 0.143 (table 2).

Discussion

This study has been conducted to translate the Leicester Cough Questionnaire (LCQ) and then to create its cross-cultural adaptation to determine its validity and reliability to utilize this scale in Urdu speaking patients with chronic respiratory diseases to help actioner to get data easily and the patient to understand easily.

According to the study conducted in Turkish language and they found Internal consistency, Cronbach alpha coefficients of all sub items ranging between 0,73-0,89 and computed as 0,92 of

total index. For each item the test-retest reliability, the correlation coefficient ranging between 0.598-0.788 and computed as r=0.905 for LCQ total score (p<0.001) [35]. The current study was conducted to assess the validity and reliability of the Leicester Cough Questionnaire (LCQ) transformation into Urdu version. 17 patients were selected, and data was collected twice (with difference of 2 weeks). The Pearson correlation was found 0.965 and P value =0.000 and ICC was 0.920 (p=0.000) on first time, following two weeks' time, the Pearson correlation was observed 0.143 and P value = 0.000.

The study conducted on 172 patients in Japan, in which LCQ was translated into Japanese language, indicating Cronbach's coefficient for the domain's total scores of the LCQ was 0.91 and the scores of all the 3 domains were ranging from 0.79 to 0.85, showing a strong internal consistency of the Japanese translated version of the LCQ [36]. While in our study shows Cronbach's coefficient for the domains of LCQ was 0.922 and following 2 weeks it is 0.901. On the other hand, according to Japanese version of LCQ evaluated the construct validity between the other outcome measures which determines the severity and frequency with the Japanese version of the LCQ tool. For this purpose, association with the LCQ Japanese version, Cough Visual Analogue Scale and numerical scores were calculated in 54 patients. The study results showed the significant association between the Cough VAS and LCQ scorings [36]. While in comparison to the current study, there is negative significant correlation between Cough VAS and LCQ scores (i.e. if score on one scale increases, it decreases on another scale) i.e. r = -0,89 and p= 0.735. Similarly, the Polish version of LCQ also stated that there was a notable negative association between the Polish version of LCQ, severity of cough which is assessed by the VAS cough intensity, and the outcomes of the "Euroqol-5D (EQ5D) and St. George's Respiratory Questionnaire SGRQ".

In conclusion, the Urdu version of the LCQ is a reliable, valid and comprehensive way, which can be used in different clinical settings to evaluate QOL in patients who have sub-acute (2-8 week) or chronic cough (>8 weeks) with sufferings from chronic respiratory conditions. It is recommended that LCQ should be translated into other languages of Pakistan. Further research needs to be done on the larger sample size to determine the factor analysis. The suggestion for the future studies is that the few items of psychological domain should be rephrased or removed from the questionnaire like items 5,6,12 and 13 which indicate the same meaning (as cough made me fed up, frustrated, anxious and embarrassed). These items are identical to exactly differentiate between and only based on repetitions.

Study Limitations

This study was only performed in single center. The Factor analysis wasn't calculated due to small Sample size. Moreover, construct validity wasn't calculated due to unavailability of patients who can understand English language.

Acknowledgment

The authors thanked to all patients, participated in this study.

Disclosure statement

The authors report no potential competing interest.

Funding

This study received no grant from any funding agency.

References

Table 1 Characteristics of the participants

Characteristics	n (%) (n = 17)
Age *(yr)*, mean (SD)	45.29 (16.28)
Gender	
Males	10 (58.8)
Females	07 (41.1)
Cough duration	
Sub-acute (2-8 weeks)	2 (11.7)
Chronic (>8 weeks)	15 (88.2)
Cough severity *(VAS)*	
Mild cough to no cough	6 (35.2)
Moderate cough to worst cough	9 (52.9)
Worst cough	2 (11.7)
Smoking history	
Yes	6 (35.2)
No	11 (64.7)
Current smoking (Gender)	
Female	1 (5.8)
Male	16 (94.1)
Diagnosis	
COPD	4 (23.5)
Bronchial asthma	7 (41.1)

Chronic Bronchitis	1 (5.8)
TB	1 (5.8)
Bronchiectasis	3 (17.6)
Lung Abscess	1 (5.8)
Physical score, mean (SD)	
1st visit	3.92 (1.283)
2nd visit	3.92 (1.283)
Psychological score, mean (SD)	
1st visit	4.26 (1.379)
2nd visit	4.26 (1.379)
Social score, mean (SD)	
1st visit	3.43 (1.533)
2nd visit	3.43 (1.533)
Total score (LCQ), mean (SD)	
1st visit	4.02 (1.295)
2nd visit	4.02 (1.295)

Table 2 Analysis of different variables

Items	**Value**	**Mean (SD)**	**Intra Class Correlation coefficient (ICC)**	***P*-value**
Test Retest Reliability, Cronbach's alpha 1st visit 2nd visit	 0.922 0.921		0.920	
Correlation 1st visit 2nd visit		 4.02 (1.295) 4.86 (1.044)	 0.965 0.143	 0.000
Correlation Cough VAS[a] LCQ[b] scores		 1.76 ± 0.664 4.86 ± 1.044	 -0.89	 0.735
Content Validity Index (Scale) S-CVI/UA[c] S-CVI/Av[d]	 0.89 0.98			
Content Validity Index (Item), I-CVI 1 - 12 13 14-18 19	 1 0.9 1 0.8			

[a]Visual Analogue Scale, [b]Leicester cough questionnaire, [c]Scale-Content validity Index/ Universal Agreement, [d]Scale-Content validity Index/ Average

Remittances Review
August 2024,
Volume: 9, No: 4, pp.1136-1156
ISSN: 2059-6588(Print) | ISSN 2059-6596(Online)

Table 3 Face validation of LCQ-U by Expert panel

نیہن یچ (Frequency)	ناہ یچ (Frequency)	Phrases content is clear or not?	Q.N0
0	10	پچھلے 2 ہفتوں کے دوران، کیا اپ کو کھانسی کی وجہ سے سینے یا پیٹ میں درد ہوا ہے؟	.1
0	10	پچھلے 2 ہفتوں کے دوران، کیا اپ کھانسی کے دوران تھوک (بلغم) پیدا ہونے کی وجہ سے پریشان ہیں؟	.2
0	10	پچھلے 2 ہفتوں کے دوران، کیا اپ نے کھانسی کی وجہ سے تھکاوٹ محسوس کی؟	.3
0	10	پچھلے 2 ہفتوں کے دوران، آپ کو کھانسی کی وجہ سے کتنی بار شرمندگی کا سامنا کرنا پڑا؟	4.
0	10	پچھلے 2 ہفتوں کے دوران، میری کھانسی نے مجھے پریشان رکھا۔	5.
0	10	نے میرے کھانسی ہفتوں کے دوران، میری 2پچھلے مداخلت کی۔ روزمرہ کے کاموں میں دیگر کام یا	6.
4	6	پچھلے 2 ہفتوں کے دوران، میں نے محسوس کیا کہ میری کھانسی نے میری زندگی کے مجموعی مزے میں مداخلت کی ہے۔	7.
0	10	پچھلے 2 ہفتوں کے دوران، پینٹ یا دھوئیں کی وجہ سے مجھے کھانسی آئی۔	8.
0	10	پچھلے 2 ہفتوں کے دوران، کیا اپ کی کھانسی نے اپ کی نیند میں خلل ڈالا ہے؟	.9
0	10	پچھلے 2 ہفتوں کے دوران، اپ کو دن میں کتنی بار کھانسی کا سامنا کرنا پڑا؟	.10
0	10	پچھلے 2 ہفتوں کے دوران ، میری کھانسی نے مجھے مایوس کر دیا۔	.11
2	8	پچھلے 2 ہفتوں کے دوران، کھانسی کی وجہ سے مجھے اکتاہٹ محسوس ہوئی۔	.12
2	8	پچھلے 2 ہفتوں کے دوران، کیا اپ کو کھانسی کی وجہ سے اپنی اواز میں کھردرے پن کا سامنا کرنا پڑا ہے؟	.13
0	10	پچھلے 2 ہفتوں کے دوران، اپ کتنا وقت پریشان رہے کہ اپ کی کھانسی کسی سنگین بیماری کی نشاندہی کر سکتی ہے؟	.14
0	10	پچھلے 2ہفتوں کے دوران، اپ کو اس بات کی کس قدر فکر رہی ہے کہ دوسرے لوگ اپ کی کھانسی کی وجہ سے یہ سمجھتے ہیں کہ اپ کو کوئی مسئلہ ہے؟	.15
0	10	پچھلے 2ہفتوں کے دوران، میری کھانسی نے گفتگو یا ٹیلی فون کال میں خلل ڈالا ہے۔	.16

17.	پچھلے 2 ہفتوں کے دوران، میں محسوس کرتا ہوں کہ میری کھانسی نے میرے شریک حیات، خاندان یا دوستوں کو پریشان کیا ہے۔	10	0
18.	پچھلے 2 ہفتوں کے دوران، کیا آپ نے اپنی کھانسی پر قابو پایا ہے؟	10	0
19.	پچھلے 2 ہفتوں کے دوران، کیا آپ کو بہت زیادہ توانائی ملی ہے؟	9	1

Table 4 Likert Scale for the Validation of LCQ-U

Phrases content is clear or not?					
Q#	1= Least understandable	2= Less understandable	3= understandable	4= More understandable	5= Most understandable
	Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)
1	0	0	4	3	3
2	0	0	4	2	4
3	0	0	5	1	4
4	0	1	5	2	2
5	0	0	4	1	5
6	0	0	4	3	3
7	0	3	3	3	1
8	0	0	5	1	4
9	0	0	4	1	5
10	0	0	4	1	5
11	0	1	5	1	3
12	0	2	4	1	3
13	0	3	1	2	4
14	0	0	4	2	4

15	0	0	4	3	3
16	0	0	4	1	5
17	0	0	4	2	4
18	0	0	4	2	4
19	0	1	5	1	3

Tab.5. Symbol Plate Content Validation for LCQ-U

Phrases content is clear or not?															
Q#	**Relevance** 1. Not relevant 2. Item need some revision 3. Relevant but need minor revision 4. Very relevant				**Clarity** 1. Not clear 2. Item need some revision 3. Clear but need minor revision 4. Very clear				**Simplicity** 1. Not simple 2. Item need some revision 3. Simple but need minor revision 4. Very simple				**Ambiguity** 1. Doubtful 2. Item need some revision 3. No doubt but need minor revision 4. Meaning is clear			
	1	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**
1	0	0	10	90	0	0	20	80	0	0	20	80	10	0	10	80
2	0	0	10	90	0	0	10	90	0	0	10	90	0	0	20	80
3	0	0	0	100	0	10	0	90	0	0	0	100	0	10	10	80
4	0	0	20	80	0	0	30	70	0	0	40	60	0	0	20	80

5	0	0	20	80	0	0	10	90	0	0	10	90	0	0	20	80
6	0	0	10	90	0	0	0	100	0	0	10	90	0	0	10	90
7	0	0	20	80	0	0	40	60	0	0	40	60	0	0	30	70
8	0	0	10	90	0	0	0	100	0	0	0	100	0	0	10	90
9	0	0	0	100	0	0	0	100	0	0	0	100	0	0	0	100
10	0	0	0	100	0	0	0	100	0	0	0	100	0	0	0	100
11	0	0	10	90	0	0	10	90	0	0	20	80	0	0	10	90
12	0	0	20	80	0	0	40	60	0	0	40	60	0	0	40	60
13	0	10	20	70	0	10	20	70	0	10	30	60	0	10	20	70
14	0	0	0	100	0	0	20	80	0	0	10	90	0	0	10	90
15	0	0	0	100	0	0	0	100	0	0	0	100	0	0	0	100
16	0	0	0	100	0	0	20	80	0	0	0	100	0	0	0	100
17	0	0	10	90	0	0	10	90	0	0	10	90	0	0	10	90
18	0	0	0	100	0	0	0	100	0	0	0	100	0	0	0	100
19	10	10	30	50	10	20	20	50	10	0	20	70	10	10	10	70

Remittances Review
August 2024,
Volume: 9, No: 4, pp.1136-1156
ISSN: 2059-6588(Print) | ISSN 2059-6596(Online)

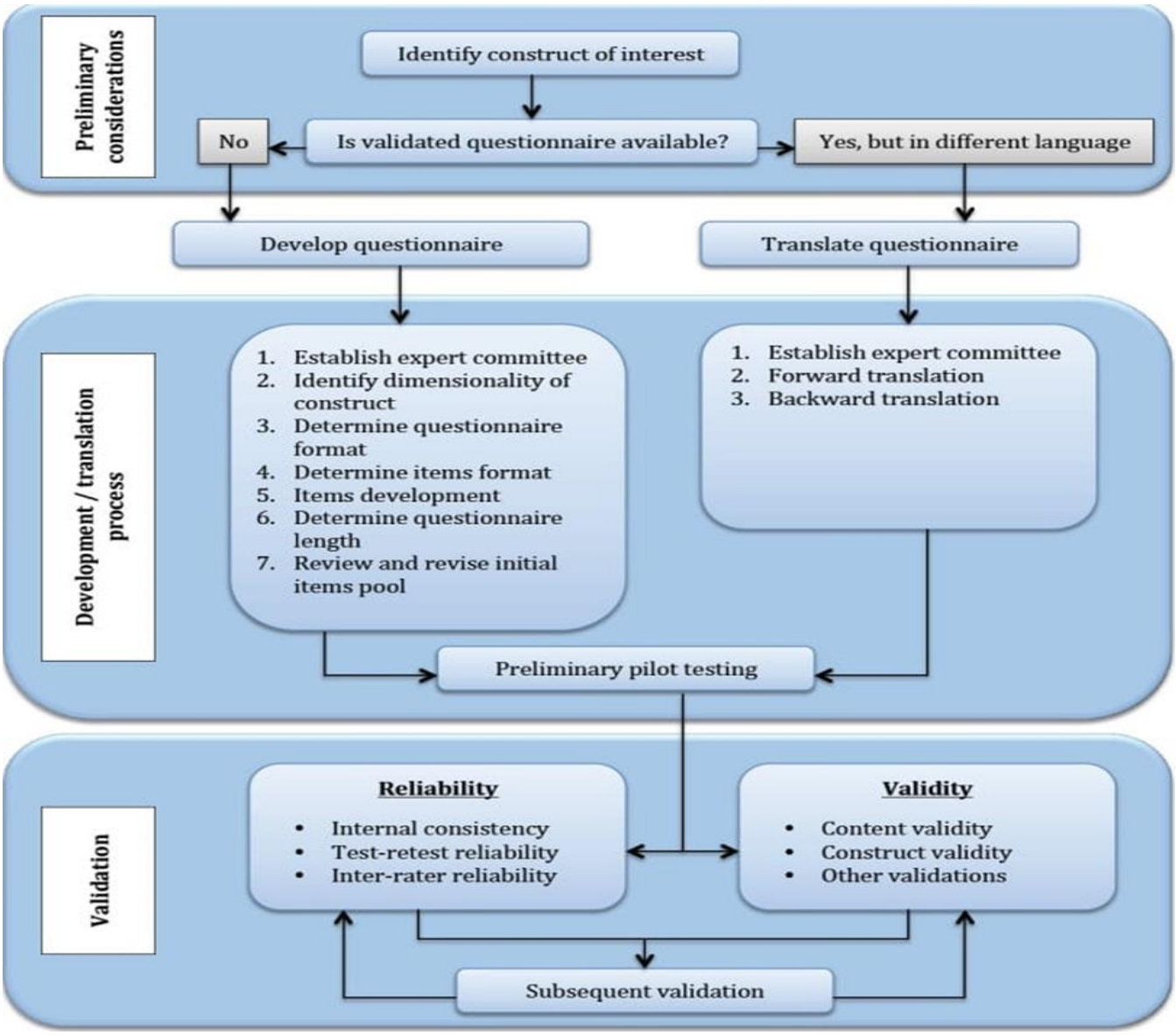

Fig.1. Flow chart of translation process