Original Article

Translation and Validation of the Urdu Version of the Family Questionnaire for Assessing Expressed Emotion

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Abstract

Background: The assessment of expressed emotions is crucial in understanding family dynamics and their impact on individuals' emotional well-being.

Objectives: This study aimed to established the psychometric properties of the Family Questionnaire Urdu Version (FQ-U).

Methods: The study was executed in three phases. In the first Phase, forward and backward translation was carried out. In the second phase, language equivalence was tested on a sample of 50 bilingual participants. In the third Phase, reliability analysis was carried out using Cronbach's alpha and split-half methods of reliability followed by exploratory and confirmatory factor analyses on sample of 300 caregivers of drug addicts. Further, in fourth Phase, convergent validity was estimated by administering Affiliate Stigma Scale (ASS) on a sample of 300 caregivers.

Results: The results of the item correlation showed a highly significant correlation between the items of FQ-U. Cronbach's Alpha Index was significantly high *(r =.93)*. Exploratory factor analysis revealed two factors solution with high loading values. The model fits accurately, according to confirmatory factor analysis, as all values are approximately equivalent to the model's ideal values. Moreover, there was a significant positive correlation between FQ-U and ASS showing convergent validity.

Conclusion: The study successfully established the psychometric properties of FQ-U, confirming it as a reliable and valid tool for assessing expressed emotion.

Introduction

A person's mental health is greatly affected by family interactions, especially when dealing with chronic mental illness. Family caregivers play demanding roles that impact patients significantly. While caregivers provide essential support, their relationships can also lead to conflict and stress. Caregivers' emotions during care can either aid recovery or increase the risk of relapse. Expressed Emotion (EE) is a key concept used to describe the emotional environment within families.[1] It encompasses two fundamental components: critical comments and emotional overinvolvement (EOI). EE reflects how family members interact with patients[2]. Critical comments include negative views of the patient, such as seeing them as burdensome, disobedient, lazy, or self-centered[3] and involve family members' excessive protectiveness, self-sacrifice, praise, blame, and controlling behaviors. Unlike critical attitudes, EOI involves being overly dominant but still negatively impacts the patient by increasing

relapse risk. Overwhelming dominance and pity can make it harder for the patient to cope, sometimes worsening their illness.[4]

Moreover, EE is linked to various clinical and demographic factors affecting both patients and caregivers, including age, gender, education, socioeconomic status, occupation, marital status, illness duration, untreated psychosis duration, and caregiver stress.[5] Higher levels of psychological distress in caregivers are also associated with elevated EE levels.[6] Notably, EE consistently predicts relapse across various mental health disorders, tending to be a reliable indicator despite being a normal aspect of human interaction.[7,8,9]

Individuals with schizophrenia who return home to critical or overly involved family members are more likely to experience poor clinical outcomes within 2 years after hospital discharge. Furthermore, additional findings suggest that the detrimental impact of high EE may extend beyond this initial timeframe.[10] Notably, a heightened level of EE within the household has been found to exacerbate the prognosis for individuals with psychosis.[11,12] Empirical evidence has also demonstrated that the emotional expression exhibited by a spouse is associated with increased psychological distress among women with breast cancer.[13]

The assessment of expressed emotions is therefore essential to understand the complexities of intimate relationships and their effects on emotional wellness. Several tools have been used for this purpose, but each has limitations. Tools such as the Parental Bonding Instrument (PBI) Urdu version[14] and the Camberwell Family Interview (CFI)[15] have been widely used to assess EE. However, the PBI focuses primarily on perceived parenting style during childhood, which may not fully capture current emotional expression in caregiving contexts. The CFI, translated into Urdu by Akhtar and Bano[16], although considered the gold standard, is a highly time-intensive interview taking up to four hours to complete and requiring trained raters. These limitations reduce the feasibility of using these tools in routine clinical practice, particularly in resource-constrained settings. To address this need, the FQ was developed as a concise self-report measure of EE. However, an Urdu version of the FQ has not been previously established and validated. Therefore, the present study aimed to translate the Family Questionnaire into Urdu and validate it within a Pakistani sample to provide a culturally relevant, time-efficient tool for assessing EE in caregivers of individuals with drug addiction.

Methods

Firstly, approval was taken from the University of Central Punjab's Ethical Review Committee and original scale's author to translate the scale. Following Tsang[17] method, three bilingual experts performed forward translation into Urdu language, which was reviewed by experienced professors to ensure semantic and conceptual accuracy[18]. After expert feedback and minor revisions, backward translation was done by three bilingual experts to check consistency with the original. The expert committee finalized the Urdu version after thorough review. Experts committee synthesized each item by its content and meaning. After considering recommended suggestions, a final draft for scale was prepared.

A pilot study with 30 caregivers of people with drug addiction was conducted to assess the clarity and relevance of the Urdu Family Questionnaire. Participants completed the scale and gave feedback on confusing items. Since no major changes were needed, the scale was deemed clear and suitable, allowing the main validation study to proceed.

Using a cross-sectional design, 300 caregivers of drug addiction patients were randomly recruited from Lahore hospitals and rehab centers (May–September 2021) with institutional permission. Participants were parents aged 40-55, living with the addicted individual, caregiving for at least six months, and physically and mentally healthy. Caregivers with serious medical or psychological conditions or unwilling to participate were excluded.

For cross language validation (Phase II), 50 bilingual participants were selected. A translated scale was administered followed by the original English version after a one-week interval. In phase III reliability and dimensionality of the scale was established using Cronbach alpha, test-retest reliability, split half reliability, exploratory and confirmatory factor analysis. The study sample consisted of 300 caregivers of drug addicts, aged 20-55 ($M = 45$, $SD = 7.7$), with 54 (15%) males and 246 (70%) females. To reach the third phase of the study, the permission was obtained from drug rehabilitation institutes for data collection. The translated scale was administered to the target sample, taking approximately 10-15 minutes to complete. Total sample consisted of 300 caregivers of individuals with drug addiction 54 (15%) male, and 246 (70%) female with age range of 20-55 years ($M= 45$, $SD= 7.7$). After obtaining permission, sample was collected from hospitals for the validation process. The Urdu version of FQ was administered

with the Urdu version of Affiliate Stigma Scale (ASS). Each scale was administered individually, with a five-minute gap between each scale administration.

Instrument

Family Questionnaire[19]

This scale was developed by Wiedemann and his colleagues, measures expressed emotions in caregivers. It is a 20-item scale including two subscales: CC and EOI. Items are rated on a 4-point scale ranging from "Never" (1) to , "Very often" (4). The internal consistency reliability computed by author for the CC subscale is 0.92, and for the EOI subscale, it is 0.80. In this study, Cronbach's Alpha for the CC and EOI subscales were .95 and .93, respectively. Cronbach's Alpha for the overall scale was .93.

Instrument

Affiliate Stigma Scale Urdu Version[20]

Affiliate stigma scale, 22-item was developed by Mak and Cheung,[21] measures affiliate stigma in three components: affect, cognition and behaviour. Items are rated on a four-point scale ranging from 1= (Strongly Disagree) to 4= (Strongly Agree). In this study the Urdu version was used. The overall internal consistency reliability for this scale is α = .94. In this study, Cronbach's alpha for the full scale was .94

Results

The study used SPSS-21 to compute descriptive statistics, reliability, and validity coefficients. Results showed that this scale had good reliability and internal consistency (Urdu-version α=0.93 to 0.95; English-version α=0.80 to 0.92 for all subscales) along with correlation coefficients (r = 0.99). The analysis showed that the English version of the FQ had a mean score of 43.80 (SD = 12.96), while the Urdu version had a mean score of 43.42 (SD = 12.82). A significant positive correlation

Table 1: *Item total correlations of Critical Comments and Emotional Overinvolvement subscales of the Urdu version of the Family Questionnaire (N= 300)*

Critical Comments (FQ)		Emotional Overinvolvement (FQ)	
Items	r	Items	r
1	.66	11	.60
2	.69	12	.62
3	.66	13	.55
4	.68	14	.57
5	.70	15	.65
6	.62	16	.60
7	.65	17	.55
8	.64	18	.60
9	.65	19	.60
10	.61	20	.56

Table 2: *Inter-item correlation of Family Questionnaire*

Items	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	-	.76	.71	.67	.72	.58	.67	.64	.64	.64	.38	.24	.20	.19	.24	.20	.13	.25	.24	.21
2		-	.75	.71	.74	.57	.69	.69	.69	.60	.32	.28	.21	.21	.24	.22	.21	.27	.22	.25
3			-	.72	.73	.62	.68	.67	.67	.69	.30	.18	.16	.21	.21	.13	.14	.32	.18	.15
4				-	.73	.60	.64	.75	.71	.77	.29	.23	.14	.25	.25	.20	.14	.28	.23	.17
5					-	.60	.67	.72	.68	.67	.30	.25	.23	.22	.27	.23	.17	.30	.25	.27
6						-	.57	.62	.64	.58	.34	.24	.16	.21	.24	.23	.25	.30	.29	.23
7							-	.65	.63	.65	.32	.27	.20	.25	.20	.18	.17	.29	.22	.19
8								-	.64	.70	.27	.21	.13	.18	.24	.19	.12	.27	.21	.16
9									-	.64	.28	.26	.16	.17	.23	.21	.19	.26	.21	.18
10										-	.24	.20	.14	.20	.20	.12	.10	.21	.15	.13
11											-	.57	.52	.53	.62	.51	.54	.45	.57	.45
12												-	.72	.58	.74	.65	.66	.55	.60	.64
13													-	.52	.70	.69	.61	.53	.55	.58
14														-	.64	.62	.64	.53	.61	.53
15															-	.70	.68	.61	.69	.61
16																-	.66	.62	.65	.70
17																	-	.49	.61	.61
18																		-	.58	.58
19																			-	.62
20																				-

($r = .99, p <.05$) was observed between the two versions, indicating that the Urdu version is consistent and equivalent to the English version.

Table 3: *Kaiser-Meyer-Olkin Measure of Sampling Adequacy and Bartlett's Test of Sphericity for Urdu version of Family Questionnaire (N=300)*

Subscales	KMO	X^2	df	P
		Bartlett's Test		
CC	.95	2558.903	45	.00
EOI	.94	2108.122	45	.00
FQ-Total	.94	4827.735	190	.00

Note. CC = Critical Comments; EOI = Emotional Overinvolvement; FQ = Family Questionnaire

Table 4: *Rotated component matrix for overall Items of Urdu Version of Family Questionnaire using varimax rotation method (N = 300)*

Total items of FQ	Subscale wise items	Component 1	Component 2
4	CC-4	.86	
3	CC-3	.86	
5	CC-5	.85	
2	CC-2	.84	
8	CC-8	.84	
1	CC-1	.83	
10	CC-10	.83	
9	CC-9	.81	
7	CC-7	.80	
6	CC-6	.73	
15	EOI-15		.86
16	EOI-16		.85
12	EOI-12		.82
17	EOI-17		.82
13	EOI-13		.80
19	EOI-19		.79
20	EOI-20		.79
14	EOI-14		.76
18	EOI-18		.71
11	EOI-11		.67
Eigenvalues		9.032	4.574
% of Variance		45.162	45.162
Cumulative %		22.870	68.033

Note. CC = Critical Comments; EOI = Emotional Overinvolvement; FQ = Family Questionnaire

Table 1 illustrates a strong positive item-total correlation of each item. Item total correlation ranged from .55 to .70. The inter-item correlation of the Family questionnaire (Table 2) was positive and ranged between .57 and .76, except for item no. 11, 12, 13, 14, 15, 16, 17, 18, 19, and 20 had weak to moderate correlations ranging between .10 and .38 across almost all other items. Cronbach's Alpha was used to calculate the reliability of the scale's internal consistency. Cronbach's Alpha found to be .95 and .93 for CC and EOI, respectively, and .93 for the overall scale. These values depicts that the internal consistency of scale is high. A value close to 1.00 suggests high internal consistency of a construct.[22] Furthermore, in split-half reliability, scale items are split into two equal divides. Results showed high split-half reliability: 0.94 for CC, 0.92 for EOI and 0.49 for the total scale. This indicates a statistically significant correlation between the two total scores.[23] The scale's test-retest reliability was estimated in the following step. Correlation coefficient statistics were used to investigate the Family Questionnaire's test-retest reliability results. The results revealed a high correlation between the first and second administrations of the scale, such as .96 for the CC, .52 for the EOI, and .99 for the overall items of the Family Questionnaire.
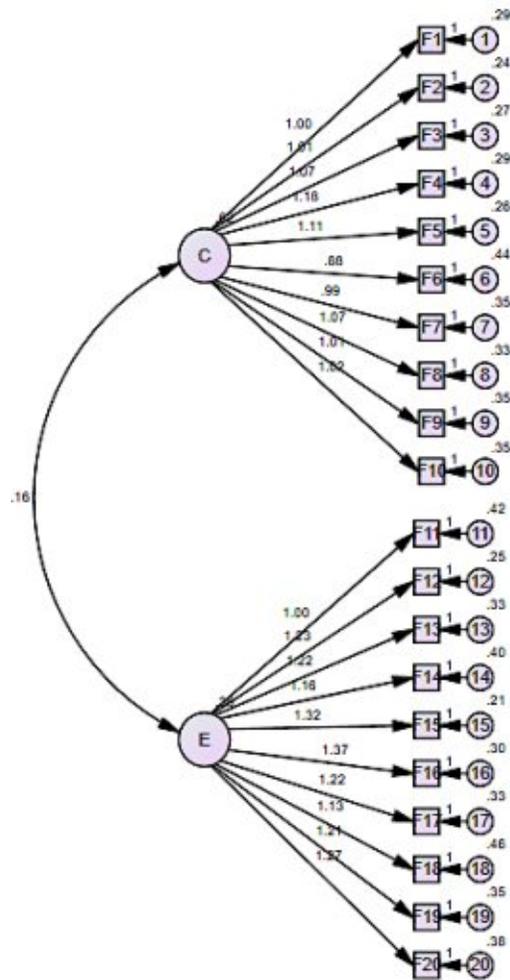

Figure 1: *Measurement model of Family Questionnaire*

An Exploratory Factor Analysis (EFA) using Principal Component Analysis with Varimax rotation was con-

ducted to evaluate the psychometric properties of the Urdu version of the Family Questionnaire. KMO value of .94 indicated high sampling adequacy (Table 3). Bartlett's Test of Sphericity ($X2 = 4827.735$, $p < .001$) approved the appropriateness of the data for factor analysis. The EFA revealed a two-factor solution based on eigenvalues greater than 1.0 and the scree plot. The first factor had an eigenvalue of 9.03, accounting for 45.16% of the variance, and the second factor had an eigenvalue of 4.57, accounting for an additional 22.87%. The cumulative variance explained by the two factors was 68.03%, indicating a robust factor structure. All 20 items were retained and loaded significantly ($\geq$ .67) on their respective factors. Factor 1 corresponded to CC subscale, with loading values ranging from .73 to .86. Factor 2 corresponded to EOI subscale, with loading values ranging from .67 to .86 (see Table 4).

The most reliable statistic for determining the psychometric qualities of a scale is factor analysis. To evaluate the psychometric properties of the Urdu version of the Family Questionnaire, CFA statistics was employed (Figure 1), retaining all 20 items. The results showed a Chi-square value of 415.27 ($p < 0.001$). The Root Mean Square Error of Approximation (RMSEA) was 0.07, indicating a good model fit. An RMSEA value of less than .08 suggests a good model fit.[24] The Good Fit Index was calculated to be .88, indicating that the model is acceptable. The model has a Normative Fit Index of .91, indicating acceptable. The model also produced good fit indexes, such as Tucker Lewis Index =.94, Incremental Fit Index =.94, and Comparative Fit Index =.94.

The convergent validity of the Urdu version of the Family Questionnaire was assessed by examining its correlation with ASS. Results showed significant positive correlations between the scales, with the CC subscale showing an r-value of .69, EOI subscale showing an r-value of .62, and the total score of the FQ showing an r-value of .80. These findings indicate that the Urdu version of the Family Questionnaire demonstrates adequate convergent validity with the Affiliate Stigma Scale.

Discussion

This research focused on translating the Family Questionnaire into Urdu using a rigorous four-step validation process. The study confirmed the Urdu version's generalizability in Pakistan. Through forward and backward translation, strong language equivalence was achieved, with high similarity and positive correlations between the Urdu and original versions. These results support the translated version's accuracy in reflecting the original measure. The study aligns with Cruchinho et al. emphasis on the importance of cross-cultural validation in ensuring reliable translations.[25]

The Urdu Family Questionnaire demonstrated strong internal consistency, with high inter-item and item-total correlations, indicating reliable measurement of the intended construct. This supports the scale's effectiveness and aligns with literature emphasizing the importance of internal consistency in cross-cultural scale validation.[26] Additionally, Cronbach's Alpha coefficients indicate high test consistency for both subscales and the overall Family questionnaire score. This demonstrates that the Urdu version of this scale exhibits strong internal consistency and reliability. Factor analysis was conducted to examine the underlying factor structure of the Urdu version of the Family questionnaire. The results revealed two components with eigenvalues greater than 1.0, indicating a two-factor structure. This finding aligns with the theoretical framework of the Family questionnaire and suggests that the scale measures two distinct aspects of family dynamics related to expressed emotions. Confirmatory factor analysis further supported the theoretical and psychometric soundness of the Family questionnaire's component structure in the Urdu version.

The authors have drawn on earlier translations, starting with the work of Zanetti et al.[27] in Portuguese which placed the main emphasis on cultural adaptation and prior testing. While their study did not report on psychometric properties, the current research showed the reliability and supported the two-factor model of the Urdu version using EFA and CFA. As a result, the scale is shown to work well and reliably in Urdu-speaking communities. The results obtained in the present study are similar to what Koutra and his colleagues[28] found when validating the Family Questionnaire in Greek. The results validated the initial two-factor structure of the scale, where CC and EOI have 10 items each, as in the Urdu version. Apart from those reported, the high internal consistency in the Greek sample (Cronbach's α = .90 for CC and .82 for EOI) also matched our calculated reliability, serving as further proof that the FQ remains valid and robust globally.

To assess convergent validity, correlation with ASS was examined. The substantial positive correlation between the Urdu version of the Family questionnaire and the ASS scale indicates good convergent validity. This implies that the Urdu version of Family questionnaire effectively captures the construct of expressed emotions within the context of family dynamics, and its scores are related to the levels of affiliate stigma.

Overall, the findings of this study offer preliminary evidence supporting the validity and generalizability of the Urdu version of the Family Questionnaire. The rigorous validation process, including translation and cross-language validation, scale reliability estimation, factor analysis, and convergent validity assessment, strengthens the confidence in the measure's applicability in Pakistan. However, further research is needed to explore other aspects of validity, such as discriminant validity and criterion-related validity, to establish a more comprehensive understanding of the measure's psychometric properties.

Conclusion

Family questionnaire Urdu version is a reliable and valid measure to assess the expressed emotions when applied to caregivers who speak Urdu. The results confirmed that the scale is internally consistent, reliable and accurate for measuring the defined developmental features. Besides its psychometric strength, the adaptation of the scale to Pakistani culture helps make it applicable and valid in Pakistan. For these reasons, it is helpful in both clinical work and scientific examinations of family dynamics and mental health in Urdu speakers.

Author's Contribution:

IS: Conception & design, acquisition of data, analysis & interpretation of data, drafting of article

AA: Analysis & interpretation of data, critical review, final approval of the version to be published

AS: Analysis & interpretation of data, critical review, final approval of the version to be published

MJ: Analysis & interpretation of data, critical review

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