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Alteration of Thoughts During Pregnancy; Translation and Validation of Automatic Thought Questionnaire Revised

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ABSTRACT

Assessing negative thoughts during pregnancy enables early identification of psychological distress, preventing adverse maternal-fetal outcomes. The primary objective of this study was to translate and validate the Automatic Thoughts Questionnaire-Revised (ATQ-R) in Urdu language for Pakistani population so it can be utilized for antenatal screening in low resource settings. Through convenient sampling, the sample of 440 pregnant women (220 working and 220 non-working)

taken from Private and Government hospitals and clinics of the Rawalpindi and Islamabad. The Exploratory and Confirmatory analyses were conducted through SPSS-24 and AMOS, respectively. The result depicted that Automatic thought Questionnaire Revised–Urdu (ATQ-RU) has sound psychometric properties ($\alpha=0.91$), $p<0.001$. The Automatic Thought Questionnaire (ATQ) is a psychometrically valid and reliable tool for assessing the negative automatic thoughts among pregnant women.

Keywords: Negative thoughts, Automatic Thoughts Questionnaire Revised, Reliability, Validity

INTRODUCTION

Pregnancy is a transformative process due to the drastic biological, cognitive, emotional and behavioral variations that have a considerable impact on the psychological well-being of women. Cyclic changes in hormones, physical adaptations and social transition effects lead to perceptible changes in cognitive processing and affective control. In addition to these biological changes, a number of environmental factors, including social support, financial stability, the quality of marital relationships, and exposure to stressful life events, are also very instrumental in defining maternal cognition and emotional processing.

Changes in cognitive processing, especially, the higher frequency of negative automatic thoughts, increase the susceptibility to anxiety and depression, and may affect the health of both the maternal and fetal health. Early diagnosis and assessment of these maladaptive thought processes are essential to timely interventions for maternal mental health. Automatic Thoughts Questionnaire-Revised (ATQ-R) is the established measure that is able to evaluate the frequency of positive and negative automatic thoughts. Nevertheless, for successful implementation of this tool linguistic and cultural modification is necessary to make the tool contextually accurate in various populations. Thus, the given research is planned to perform the translation and validation of ATQ-R to be used with the pregnant women in Pakistan to guarantee the psychometric reliability of the tool and its cultural appropriateness in measuring the cognitive changes that take place during pregnancy.

LITERATURE REVIEW

Pregnancy is the very essential and main phase of the women life. This phase where brings joy to a new mother, it's also linked with many physiological and psychological transformations (O'Connor et al., 2013; Borovoi et al., 2022; Farooq et al., 2020). Due to hormonal imbalances, environmental factors and familial factors, sometime pregnant females struggle from negative thinking that can lead them towards depressive and anxiety symptoms (Al Lawati et al., 2024; Ali et al., 2025; Feng et al., 2023). Researches shows the prevalence of depressive and anxiety symptoms are twice in pregnant females as compared to non-pregnant females (Nissen et al., 2023; Ansari et al., 2020; Ashraf et al., 2025). These symptoms is very

dangerous for fetal health as many mental health problem has genetic predisposition and effect the mental health of the child in his childhood and adult era (Ramalingam et al., 2021; Szigethy & Ruiz, 2001; Hafeez et al., 2011).

Different instruments are using to access negative thoughts like Automatic Thoughts Questionnaire (ATQ), Cognitive Error Questionnaire (CEQ), Crandell Cognitions Inventory (CCI), and Thought Control Questionnaire (TCQ) but widely accepted tool is Automatic Thoughts Questionnaire (ATQ) that is grounded in Beck's Cognitive Theory of Depression. Automatic though questionnaire has sound psychometrics properties and it is easy to administered and interpretation.

The Automatic Thoughts Questionnaire (ATQ), developed by Hollon and Kendall (1980), measures negative automatic thoughts linked to depression. In the original version it has 30 items that depicted good psychometric properties in clinical as well as non-clinical populations (Zettle et al., 2013; Iqbal et al., 2025). It has beeb translated in Turkish and Danish languges and both version have high internal consistency and validity (Lichtenstein et al., 2019; Şahin & Şahin, 1992).

The researches indicated that depressed people have both negative and positive thought but negative thoughts are more as compared to positive thoughts (Kendall et al., 1989; Gokdag & Basaran, 2019; Ivascu et al., 2022). The original version had only negative items and it was difficult to measure positive thoughts and to discriminate positive and negative thinking within one individual so in 1989 Kendall, Howard, and Hays (1989) revised the scale and included 10 positive items. The Automatic Thought Questionnaire- Revised has 5-point Likert scale. The score range is from 40 to 200. The scale has both scoring, computing and subscale scoring. The revised version has good alpha reliability ($\alpha = 0.96$).

Translation and Adaptation Process in Psychological Measures

Translating and validating psychological instruments encompass far more than simply translating a linguistic text. It requires cultural adaptation to ensure semantic, content, technical, and criterion equivalence between the original and the newly translated versions (Beaton et al., 2000; Epstein et al., 2015). Modern recommendations often from the International Test Commission (2018) have highlighted the importance of a systematic process involving forward translation, review by a panel of experts, back-translation, pre-testing, and psychometric evaluation. Recent research recognizes the importance of cultural validation to signify meaningful, context-relevant research. For example, Al-Qahtani et al. (2021) explored and translated and validated parenting-related scales in Arabic, highlighting how the translation process revealed culturally rooted understandings of structure and warmth that differed from the original meanings intended by the English scales (Sibt-e-Ali et al., 2021; Taqi et al., 2022). Despite its widespread use, language barriers can limit its applicability in non-English-speaking populations like in Pakistan (Kanwal & Tasleem, 2025; Janjua et al., 2025; Uddin et al., 2025). The national language of Pakistani Population is Urdu so it is recommended to use Urdu Version of scales to obtained best research results. To address this, the current study aims to translate and validate the ATQ-R for the Pakistani population in two phases:

translation of the Automatic Thought Questionnaire Revised in to Urdu Language and ensuring its good psychometric properties and cultural relevance.

Material and Methods

Objective

The objective of Phase I was to translate and validate the scales i.e, Parent as social context (parent version) in general conversion from the source language (English) to the target language (Urdu).Following steps has been taken for translation and adaptation of scales:Procedure.

Objectives

The objective of the present study is

1. Translation of the Automatic Thought Questionnaire-Revised into targeted language.
2. Establish the psychometric properties of translated scale.

Methods

The study was conducted in International Islamic University, Islamabad. Consent has been taken from authors through email for translation as the copy right has been hold by author so the permission of authors is important for translation of the scale. The study was conducted into two phases, translation of the Automatic Thought Questionnaire Revised (ATQ-R) and established the psychometric properties of the questionnaire. Total sample size was 440 pregnant women. For the cross language validation 40 pregnant female were selected. For the Exploratory Factor Analysis the data was collected from 200 pregnant females and for the Confirmatory Factor Analysis the data was collected from another sample of pregnant females.

Phase I: Translation of Automatic Thoughts Questionnaire-Revised (ATQ-R-U)

The Revised Automatic Thoughts Questionnaire-Urdu is a measure for assessing the negative and positive automatic thoughts among the sample. It consists of thirty negative statements and ten positive statements, with a response format on a five-point Likert scale (0. Never; 1. Sometimes; 2. Moderately; 3. Frequently; 4. Always). Participants are asked to indicate the severity each thought regarding the previous week. 10 items have revers scoring. The scoring range of the questionnaire is from 40 to 200. This questionnaire has two types of scoring, composite scoring and subscale scoring. The questionnaire can also be used as consisting of two subscales, one for negative automatic thoughts and another for positive automatic thoughts, thus generating two different totals. Higher scores indicate higher the negative automatic thoughts. In the original study the Cronbach's alpha, was equal to 0.90 (Hollon & Kendall, 1980). In the present study, a high value for Cronbach's alpha is obtained that is 0.91. However the present study indicates three factor of the questionnaire rather than two factors in the original questionnaire. Three factors are Low-Negative self-concept, Poor personal adjustment and desire for change and Positive self-statement with good alpha reliability 0.87, 0.85 and 0.84, respectively.

Step 1: Forward Translation.

Following approval from the original author, the scale underwent a rigorous forward translation process to ensure conceptual and linguistic equivalence in the Urdu adaptation. The translation was conducted by a panel of five bilingual experts, carefully selected to represent different facets of linguistic and psychological expertise. This panel included two MPhil scholars from the English Department with specialization in translation studies, two professional Urdu linguists well-versed in formal translation, and one clinical psychologist to maintain the integrity of psychological terminology.

The translators were to create their own version of the translated scale, which was a methodological strategy aimed to reduce the bias of a particular individual and maximize the validity of the translation. After the translation of individual versions, the research team prepared the initial version of the Urdu draft by joining these versions. Semantic, idiomatic and conceptual equivalence of this consolidated version was then checked against the original scale and the translation then remained true to the literal and the psychological constructs of the assessment instrument.

Step 2: Committee Approach.

The translation was then culturally transposed and reviewed by a panel of five PhDs in Clinical Psychology in the committee approach. The scale had been initially constructed and its use and the necessity to translate was known to the committee. The panel reviewed the translated version of the questionnaire and made alterations in the form of recommendations. The preliminary version of the Urdu questionnaire was selected with the items that are more culturally and linguistically suitable.

Step 3: Backward Translation.

The Urdu version of the scale was subjected to a backward translation procedure to make sure that the translated instrument is accurate and comparable. This was done by a panel of five bilingual professionals and each with MPhil degree in addition to the translator, who was carefully chosen to carry out this task. The panel consisted of two psychologists who have experience in psychometric tests, a Urdu linguist who has done linguistic validation, and an English language scholar who has studied translation.

All professionals translated the Urdu version back to English without using a reference to the initial scale. This was a blind reversal of translation strategy used to identify and correct any differences in the meaning, words, or even clarity of concepts between the two versions. The research team then systematically compared the resulting English translations with the original scale in order to evaluate semantic, idiomatic and conceptual equivalence. When there were discrepancies, they were sorted out via the adoption of an iterative process of consultations with the translators, such that the final Urdu variation was an absolute reflection of language and mental soundness. This strict methodological procedure was critical in maintaining the reliability of the scale and cultural suitability of the scale to the

target population.

Step 4: Committee Approach.

To compare the two versions of backward translation, the master panel of five PhDs in Clinical Psychology checked the master panel translation with the English version. The criticisms were received and all the gaps or differences were recorded and corrected. The translated version also had some of its items edited when needed to show the content of the original and maintain the cultural and linguistic equivalencies.

Step 5: Cross Language Validation.

The version approved in previous step in ready for cross language validation

Sample. Total 40 women were taken as a study sample. For cross-language validation phase, purposive sampling was used to recruit 40 pregnant women aged between 18 and 45 years. Participants of the study were selected from different government and private hospitals and clinics of Rawalpindi and Islamabad.

Procedure. Participants of the study were selected from different government and private hospitals and clinics of Rawalpindi and Islamabad. The participants were divided into two equal groups: Group 1 and Group 2.

While Group 1 filled the English version of the scales as originally developed, Group 2 filled the Urdu version of the scales. The same participants were re-administered the same scales, but with a different administration format after 15 days had passed. The two groups were subdivided into Group 1a (n = 10), Group 1b (n = 10), Group 2a (n = 10) and Group 2b (n = 10).

In the second administration the English version of the scales was given to Group 1a while Group 1b was given the Urdu version. On the other hand, Group 2a was filled as the English version was completed and Group 2b was filled as the Urdu version was completed. Before the survey, participants were read the study's purpose, anonymity, and voluntariness of participation. They were told that they should answer the questions truthfully with the use of the response key. Support was provided as appropriate to facilitate the completion of the questionnaires in ways that minimized error. Pearson Correlation analysis was conducted to analyze the cross language validation of Automatic Thought questionnaire-Revised Urdu version.

Table 1

Cross language validation of Automatic Thought Questionnaire Revised -Urdu (N=40)

Groups	N	1 st Administration	2 nd Administration	r
I	10	English	English	.85
II	10	English	Urdu	.93
III	10	Urdu	Urdu	.96
IV	10	Urdu	English	.78

Note. ***p<0.001

Table 1 show that both version of the questionnaire are highly co-rrelate

with each other.

Phase II: Psychometric Properties of Automatic Thought Questionnaire-Revised-(Urdu)

In this phase the psychometric properties of Automatic Thought Questionnaire- Revised Urdu was determined through Exploratory Factor Analysis and Confirmatory Factor Analysis.

Sample. 200 pregnant women, 100 working and 100 non-working women, selected from private clinics and hospitals in Rawalpindi and Islamabad for the establishment of psychometric properties of translated scale. The participants have been 18 to 40 years of age. For the selection of participants, purposive sampling was used. Socio-demographic characterization was carried out on variables like age, education, occupation, monthly income, trimester of pregnancy, parity and mode of delivery.

Instruments. Following instruments were used.

Automatic Thought Questionnaire Revised (Urdu). The measure (Urdu version) finalized in Phase I of the study was used for assessing the psychometric properties in detail.

Procedure. Purposive sampling was used to recruit 400 pregnant women aged between 18 and 45 years. Participants of the study were selected from different government and private hospitals and clinics of Rawalpindi and Islamabad. Before the survey, participants were read the study's purpose, anonymity, and voluntariness of participation. They were told that they should answer the questions truthfully with the use of the response key. Support was provided as appropriate to facilitate the completion of the questionnaires in ways that minimized error. The psychometric properties of translated scale were determined by Exploratory Factor analysis and Confirmatory factor analysis through SPSS-24.

After checking the normality and accuracy the data was analyzed through exploratory factor analysis by SPSS-24.

Table 1

Psychometric properties of the Automatic thought questionnaire-Revised Urdu (N=200)

Sr.No	Scale	k	M(SD)	α	Ranges		Skewness	Kurtosis
					Potential	Actual		
1	ATQ-R-U	40	107.66(16.22)	0.91	40-200	83-149	0.76	-0.98
2	ATQR-N1	14	37.33(8.16)	0.87	14-70	18-52	0.87	-1.02
3	ATQR-N2	16	35.93(8.50)	0.85	16-80	17-53	1.32	1.76
4	ATQR-P	10	13.75(5.93)	0.84	10-50	11-22	1.21	-0.98

Note. ATQ-R=Automatic Thought Questionnaire-Revised-Urdu, ATQR-N1=Low-

Negative self-concept, ATQR-N2= Poor personal adjustment and desire for change,
 ATQR-P= Positive self-statement, k=number of items, α =chrobach alpha,
 M=mean, SD=standard deviation

Table 1 indicates the psychometric properties of Automatic Thought Questionnaire-Revised-Urdu. According to the results, the scale has the reliability of ($\alpha=0.91$). The subscales Low-Negative self-concept, Poor personal adjustment and desire for change, Positive self-statement, have also a good alpha reliability of ($\alpha=0.87$) ($\alpha=0.85$) ($\alpha=0.84$) respectively.

Table 2

Split Half Reliability of Automatic Thought Questionnaire-Revised-Urdu (N=204)

Cronbach alpha	Part 1	Value	.89
		No of items	20(a)
	Part 2	Value	.88
		No of items	20(b)
	Total no of items		40
		0.91	
Correlation between forms			.82
Guttman split –Half reliability			.85

Note. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table 2 elucidates the split half reliability of Automatic Thought Questionnaire-Revised-Urdu. According to the results the split half reliability is 0.85.

Table 3

Item-total correlation for ATQ-R (Urdu version) (N=200)

Item No.	Item total correlation	Item No.	Item total correlation
1	.84***	21	.83***
2	.84***	22	.82***
3	.83***	23	.83***
4	.83***	24	.83***
5	.83***	25	.82***
6	.82***	26	.83***
7	.82***	27	.83***
8	.83***	28	.84***
9	.83***	29	.83***
10	.83***	30	.83***
11	.83***	31	.83***
12	.83***	32	.83***
13	.83***	33	.83***
14	.83***	34	.83***
15	.83***	35	.83***

16	.83***	36	.84***
17	.83***	37	.84***
18	.83***	38	.84***
19	.82***	39	.84***
20	.82***	40	.83***

Note. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table 3 indicates item total correlation of the Automatic Thought Questionnaire-Revised Urdu. Item total correlation for ATQ-R-U ranged from .82 to .84, indicating that the items have good total item correlation with overall total score of ATQ-R-U, $p < 0.001$.

Factor Analysis

Kaiser-Meyer-Olkin Measure of Sampling Adequacy is (.81) and Bartlett's Test of sphericity (2175.43) indicates that sample is adequate for the EFA. Principal component factor analysis using Varimax rotation is used for factor extraction. The results of factor analysis have been presented in Table 4.

Table 4

Eigen Values and Percentage Variances explained by three Factors for Automatic Thought Questionnaire-Revised-Urdu (ATQ-R-U) (N=200)

Factors	Eigen Values	% of Variance	Cumulative %
F1(Low-Negative self-concept)	10.57	19.82	19.82
F2(Poor personal adjustment and desire for change)	5.31	23.76	38.87
F3(Positive self-statement)	3.96	32.14	68.84

Table 2 depicts Eigen values and variances explained by three factors for the newly developed. Factor 1 (Low-Negative self-concept) has an Eigen value of 10.57 which account 19.82% of total variance. Factor 2 (Poor personal adjustment and desire for change) has an Eigen value of 5.31 which account 23.76% of total variance. Factor III (Positive self-statement) has an Eigen value 3.96 which account for 32.14% of total variance. . According to the results, 68.84% of the variation is explained by the three components together.

Table 5

Results from Exploratory Factor Analysis of Automatic Thought Questionnaire-Revised (N=200)

Items	Factor Analysis		
	1	2	3
	Low-Negative concept	self- Poor personal adjustment and desire for change	Positive self-statement
1		0.81	
2		0.76	

3			0.81
4		0.84	
5		0.79	
6		0.84	
7			0.85
8		0.83	
9		0.81	
10			0.81
11	0.76		
12		0.86	
13			0.86
14	0.84	0.84	
15	0.81		
16			0.82
17	0.79		
18	0.82		
19	0.81	0.81	
20			0.84
21		0.85	
22		0.74	
23	0.79		
24			0.85
25	0.82		
26		0.83	
27		0.82	
28			0.83
29	0.81		
30	0.83		
31	0.81		
32			0.85
33	0.83		
34		0.86	
35	0.82	0.83	
36		0.82	
37			0.83
38	0.79		
39	0.80		
40	0.83		
Total	15	15	10
items			

Note. F1= Low-Negative self-concept, F2=, Poor personal adjustment and desire for change F3= Positive self-statement

Table 5 indicates the factor loading of Automatic Thought Questionnaire-

Revised-Urdu. The Three factors were considered three sub-scales for the questionnaire. Factor 1 measures Low-Negative self-concept and has 15 items. Factor 2 measures Poor personal adjustment and desire for change and has 15 items while Factor III measures Positive self-statement and has 10 items.

Table 6

Confirmatory Factor Analysis for Automatic Thought Questionnaire-Revised (N=200)

Model	χ^2	df	χ^2/df	GFI	CFI	NFI	RMSEA
3 factor model (Model 1)	1421	748	1.89	.90	.91	.81	.05

Table 6 elucidated the results of confirmatory factor analysis. According to result the CFI, GFI, and NFI values all above the threshold of .90, indicate that they satisfy the rigorous fit index standards. The RMSEA value is 0.08, which is significantly lower than the cutoff criterion of 0.05. The chi-square difference test suggested that model one is suitable.

DISCUSSION

The present study was aimed to translate and validate the Automatic Thought Questionnaire ATQ-R in a sample of pregnant women in Pakistan. The findings contribute to the limited literature on the cross-cultural adaptation of the ATQ-R, particularly in non-Western contexts. Below, we discuss the key results, their implications, and directions for future research.

A Principal Component Analysis was conducted to analyze the factorial validity of the translated scale. In prior studies the factorial validity were investigated of original version not the translated or adapted versions and prior researches regarding the factorial structure of the negative items of the ATQ-R have revealed discrepancy on the number of factors that can be extracted (Netemeyer et al., 2002).. The analysis of present study revealed that the ATQ-R comprises three factors: These included; “Low/Negative Self-Concept and Negative Expectations” with fifteen items, “Poor Personal Adjustment and Desire for Change” with fifteen items and “Positive Automatic Thoughts” with ten items. Pereira et al (2014) also found other similar factors, which however excluded four items, which were three of negative items and only one of positive items from the scale. In the present study, four specific items were allocated as follows: Item 14 and Item 30 were categorized into Factor 1, Negative self-concept and negative expectations Item 22 was categorized into Factor 2, Poor personal adjustment and desire for change and Item 37 was categorized to Factor 3, Positive automatic thoughts.

As with prior research, two-factor solutions have been observed in non-clinical participants (Chioqueta & Stiles, 2006; Khatoon et al., 2023), and no clear factor solutions have been found in other work (Netemeyer et al., 2002; Masih et al., 2025)). In this regard the present research work can said to be the second empirical study of the factorial structure of the ATQ-R known till date. Previously the

instrument is used mainly for total score and two dimensions: negative and positive automatic thoughts. However the present study result shows the three factor model in which two factors measures negative thoughts while one measures positive thoughts and the result of this study is supported by previous study (Pereira et al., 2014). In future there is a need for more studies on the factor structure of the Urdu version of the ATQ-R, especially employing CFA and using clinical samples.

CFA was also carried out to check the fit of the measurement model. Three-factor model of the ATQ-40 proved to fit well in the indices in Table 4 in the current study. The findings revealed good fit of the model. The Urdu version of the ATQ-40 was also found to be clinically useful and it was established that the ATQ-40 was a valid and reliable measure of the negative and positive automatic thoughts in pregnant women. Previous studies have reported the foretelling significance of Negative Automatic Thoughts of the occurrence of depressive and apprehension symptoms (Hjemdal et al., 2012; Naseer et al., 2024; Shabbir et al., 2021) as well as in major depression condition, generalized anxiety disorder, and social phobia (Gul et al., 2015).

Another finding of the current research was that the QPA-R total score and its subscales were found to be characterized by high internal consistency with the Cronbach alpha values of 0.86-0.91, which is comparable to the same values reported in the previous research by other researchers (Brinthaupt et al., 2009; Burgess and Haaga, 1994; Donnelly et al., 2011; Hollon and Kendall, 1980; Kendall et al., 1989). The clinical usefulness of the scale was reflected in the fact that it enabled the automatic thoughts associated with depression and anxiety to be captured (Hjemdal et al., 2012; Gul et al., 2015). In the current study, however, discriminant validity was not determined, and thus the future surveys should involve a comparison between scores in diagnostic groups (i.e., depressed and healthy pregnant women) and reinforce clinical conclusions.

CONCLUSION

This research study established the Urdu ATQ-R as a psychometrically sound tool to assess automatic thoughts among pregnant Pakistani women. The three-factor model of cognitive patterns has been found to be an effective measure, as it provides both negative and positive cognitive patterns but it has a high internal consistency and factorial validity. These results have empirical evidence of application of this culturally modified measure in clinical evaluation of maternal mental health in Pakistan. The effective translation and validation process proves the relevance of creating culturally relevant tools to be used to perform successful psychological assessment with non-Western people.

Limitation and Suggestion

Although this research has given useful information on the psychometric characteristics of the Urdu ATQ-R, a number of limitations should be noted. To begin with, the homogeneous group of expecting mothers is exclusively considered to restrict the generalizability of the results to other groups of demographics, males

or non-pregnating populations. The research needs to use more varied samples in the future to establish whether the three-factor structure can be stable over the genders and life stages. Second, the sample population was limited to urban (Rawalpindi and Islamabad) locations, which may have missed cultural or socioeconomic differences in cognitive-emotional experience between rural people. Increasing the diversity of the group of recruitment of different geographic and socioeconomic backgrounds would increase the external validity of the scale. Third, the six-month cross-sectional data set is feasible, however, it creates the potential of temporal bias, e.g., seasonal difference in stress or pregnancy-induced mood swings. Longitudinal research of automatic thoughts during pregnancy trimesters would make clear whether the factor structure of ATQ-R is affected by temporary mental conditions. Lastly, the study did not determine the discriminant validity by comparing the scores of clinical (e.g., depressed) and non-clinical subgroups to determine reliability and factorial validity. Further studies are necessary that include diagnostic interviews or clinician-rated to determine the sensitivity and specificity of the scale in determining psychopathology. If this is addressed, then this will enhance the usefulness of the Urdu ATQ-R as a research and clinical instrument in Pakistan.

Implications

The results of this research have a major implication on clinical practice as well as research in the profession of mental health, especially among the Pakistani women carrying a pregnancy. The useful translation and validation of the Urdu version of the ATQ-R offer a culturally relevant instrument to measure automatic thoughts, which is a major gap in the mental health assessment in non-Western context. The three factor scale structure of the negative self-concept and expectations, poor personal adjustment, and positive automatic thoughts is partly congruent with prior studies indicating that the universal core cognitive patterns are subject to cultural variables in their manifestation and structure. This tool may be used clinically to assist in the early detection of maladaptive thought processes associated with depression and anxiety that are frequently underdiagnosed in pregnant women because of stigma and insufficient mental health resources. The high internal consistency of the scale is its strength that contributes to its reliability, resulting in it being an important research and therapeutic intervention tool.

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