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Urdu Translation and Validation of McGill Body Image Scale for Head and Neck Cancer Patients

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ABSTRACT

The purpose of the study was to translate and validate the McGill Body Image Scale for Head and Neck Cancer Patients from English to Urdu, originally developed by Henry, (2018). The McGill Body Image Scale is used to assess the body image concerns among head and neck cancer, To ensure both linguistic and conceptual accuracy, the translation process was carried out by the Department of Urdu Studies at Quaid-i-Azam University (QAU) in Islamabad. This process included rigorous forward and backward translation techniques, adhering to international best practices for cross-cultural adaptation of psychological instruments. The translated scale was administered to a sample of 225 H&NC mean 39.77 SD= 19.24, allowing for a robust analysis of its psychometric properties. Confirmatory Factor Analysis (CFA) was used to examine the structural validity of the translated scale. The CFA results demonstrated a good fit to the hypothesized model, confirming that the Urdu version maintained the original two-factor structure—self-image and social discomfort. In terms of reliability, the translated scale showed excellent internal consistency. The Cronbach's alpha values for all subscales exceeded 0.98, indicating that the instrument reliably measures body image-related concerns in Urdu-speaking populations. Furthermore, the study established both convergent and discriminant validity through statistically significant correlations with existing, validated body image measures. This successful validation of the Urdu version of the McGill Body Image Scale adds a crucial tool for psycho- oncological research and clinical

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assessment in culturally diverse settings. It enables healthcare providers and researchers in Urdu-speaking communities to better understand and address the emotional and psychological challenges faced by HNC patients. For future research, it is recommended to use a dyadic design by including both patients and their caregivers across multiple hospitals. This approach would offer a richer, relational understanding of how body image concerns influence both personal well-being and interpersonal dynamics in the context of cancer care.

Keywords: self-image, social discomfort, head and neck cancer, disfigurement, body image

Introduction

The face is considered the most important aspect of our sense of identity. People tend to place more emphasis on the head and neck area than on any other parts of the body. Maintaining the integrity of the head and neck is crucial for emotional expression, interaction, and swallowing. Many patients with head and neck cancer (HNC) struggle to conceal the side effects of treatments like radiotherapy, chemotherapy, and surgery because these conditions are visible and affect their functionality. The noticeable changes in appearance, along with significant alterations in taste, swallowing, and speech, can lead to feelings of discomfort and self-consciousness. These factors contribute to increased anxiety and a negative perception of disfigurement, resulting in social stigma for HNC patients (Semple et al., 2015). Furthermore, HNC patients face psychosocial challenges, particularly related to body image disturbances (BID). There is a strong advocacy for a patient-centered approach that effectively addresses their concerns regarding appearance, social withdrawal, and functional impairments (Ellis et al., 2019).

Treating head and neck cancers is complex and typically involves advanced medical approaches, which can lead to considerable stress due to the diagnosis and side effects of treatment. Body image concerns often arise as a result of these changes (Costa et al., 2014; Qualizza et al., 2018), impaired taste (McLaughlin & Mahon, 2014), loss of speech, and challenges in respiration and nutrition (Bressan et al., 2017) profoundly affect patients. The alterations that occur due to cancer treatment significantly affect self-esteem and self-identity, consequently influencing numerous aspects of daily life even after the conclusion of treatment (Fitchett et al., 2018; Threader & McCormack, 2016). These emotional challenges may result in considerable anxiety and depression (Suzuki et al., 2016), as well as feelings of discomfort and embarrassment (Azlan et al., 2017a, 2017b; Powell et al., 2016; Reynolds et al., 2014). individuals with HNC who underwent surgery

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indicated that 75% expressed concerns or embarrassment regarding changes in their bodies following treatment (Fingeret et al., 2014).

Facial changes due to head and neck

Diseases, as well as facial transplants, are not just physical alterations; they can be profoundly traumatizing. These changes often come with complications that hinder essential functions like eating and speaking, leading to feelings of embarrassment and shame. Such emotional struggles can result in social isolation and significantly impede one's overall health (Badr et al., 2016; Wali et al., 2017). According to Gili, an altered facial appearance transforms the face from a passive background into a source of profound disruption in perception, sensation, and observation (Yaron et al., 2017). Reconciling changes in appearance does not always occur spontaneously (Ichikura et al., 2016). Men are at a higher risk of developing H & NC than women (Siegel et al., 2018).

The purpose of the study was to translate the FACT-McGill Body Image Scale in Urdu for Head and neck cancer (HNC) patients often experience significant emotional distress, particularly body image concerns due to visible physical changes, speech impairments, and societal perceptions. In Pakistan, cultural and religious beliefs further intensify these feelings, often leading to social withdrawal and psychological distress. A validated Urdu version of the FACT-McGill Body Image Scale H& NC is crucial for accurately assessing these emotional burdens and improving patient support. By localizing and validating this scale, researchers and healthcare professionals can better address the psychological challenges of HNC patients, ultimately improving their quality of life.

Method

The present research study was conducted in two distinct phases. In the first phase, the primary objective was to translate the McGill Body Image Scale into the Urdu language, ensuring both linguistic clarity and cultural relevance for Urdu-speaking populations. The second phase focused on validating the scale's factorial structure within the cultural context of the local population. This was achieved through confirmatory factor analysis (CFA), performed on an independent sample, which confirmed that the original factor structure of the scale remained consistent and meaningful in the indigenous cultural setting.

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Objectives of the Study

1-To translate and cross-validate FACT-McGill Body Image Scale H& NC in Urdu language.

2-To establish the psychometric properties of the translated scale.
3-To confirm the factor structure of FACT-McGill Body Image Scale H& NC.

Phase I: Translation Procedure

The translation procedure of FACT-McGill Body Image Scale developed by Mellisa Henry, (2018) is to translate and cross-validate into Urdu language. The FACT-McGill Body Image Scale were translated from the source language (English) to the targeted language (Urdu). After getting permission from author Mellisa Henry, (2018). The translation process was carried out by language experts from the Department of Urdu Studies at Quaid-i-Azam University (QAU), Islamabad. These translators were highly proficient in both English and Urdu, ensuring a faithful and culturally sensitive adaptation of the original scale. They were specifically instructed to preserve the core meaning of each item while carefully considering the nuances of the Pakistani cultural context. This approach ensured that the translated version remained true to the original content while being relevant and understandable for Urdu-speaking respondents.

Step 1: Observing Cultural Relevance of Instruments. Step I comprised of cultural relevance of instrument i.e. FACT-McGill Body Image Scale (MBIS) as this scale was first time used in Pakistani culture. Urdu version of the mentioned scales was not previously used so it is necessary to check its cultural relevance.

Step II: Obtaining Permission from the Authors. Before translation and adaptation of FACT-McGill Body Image Scale (MBIS) permission was taken from the original authors as it was a matter of copyright for using this scale. Permission was obtained for translation, adaptation and cross language validation of instrument. It was obtained through e-mail and its copy was attached in the appendices. Urdu language translation was required to make scale comprehendible for illiterate and literate both type of patients. Adaptation was also made to make the items more appropriate on indigenous culture.

Step III: Forward Translation of the Scales into Urdu Language. In this phase the translation from source language i.e. English into the Urdu was done. To achieve this goal four

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bilinguals were approached to translate the scale in Urdu language. As it was theoretically well supported that for translation of scale there should be more than one bilingual expert (International Test Commission, 2010). This process of translation was recommended to avoid theoretical, cultural and linguistic biases. A selection criterion of translators was that they should be fluent in both Urdu and English language, preferably holding Master's Degree in English literature. Two of bilingual's translators were PhD. students of Psychology, one was a practicing Psychologist and fourth one was teacher in English language. Purpose of the study and target population was explained to the translators. They were asked to translate the instrument as accurately as possible by keeping in view the target population. Careful instructions were given to translators so that the content and inherent meaning could be understandable for head and neck cancer patients.

Step IV: Committee Approach. In this step committee of three members including the researcher himself were selected and all translations (English to Urdu) were evaluated. Committee was consisted of bilingual subject matter experts. Committee and selected the most appropriate translation by evaluating all the four translations in reference to their items. Main objective of the translation was to get most suitable translation that has semantic equivalence with original scale items. Response categories and instructions for completion of scale were also finalized in the committee approach.

Step V: Backward Translation. Back translation was recommended as a supplementary measure to maintain the quality of translation (International Test Commission, 2010). After the selection of items in the committee approach those items were given for back translation into source language i.e. English. For this purpose, four bilingual experts were approached who had not seen the original English version and also had not participated in forward translation. Translators were also introduced with study variables and target population. Again, instructions were given to the translators to translate the items according to the understanding level of sample. For each scale four back translations were received. The translated items were written in a way that each item had four translated statements. After doing this a committee of subject matter experts was conducted to select the most appropriate translation according to understanding level of caregivers and semantic equivalence with original English version.

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Step VI: Committee Approach. To make comparison between back translated and original versions of the scales four back translations were reviewed by the similar committee approached previously to compare the back translated versions of scale with original scales to ensure equivalence and compatibility. All the back translations were giving the same meaning (both literal and contextual) as that of the original versions and there were no major ambiguities except few minor alternations. After doing all these back translations were submitted to authors of original version scales.

Step VII: Try Out. Translated versions of scales were administered on group of ten head and neck cancer patients and were reviewed by subject matter experts. Translated scales were given to the participants to give feedback on the comprehension, language difficulty, and statement clarity of the instruments. They were also requested to give input regarding the response format of questionnaire. Participants were asked to give their opinion if they found any item confusing or if they couldn't understand meaning of any statement. In try out translated FACT-McGill Body Image Scale (MBIS), was found understandable by the participants. Therefore, no major alterations were found except simplification of few ambiguous phrases.

Phase II: Validation of Translated body image Scale

In the present study, a total of 225 patients diagnosed with head and neck cancer voluntarily participated, including 180 men and 45 women. Participants ranged in age from 18 to 70 years. A purposive sampling technique was used to recruit the sample from the Oncology Department of the Combined Military Hospital (CMH), Rawalpindi, Pakistan. This non-probability sampling method was selected to ensure the inclusion of individuals who met the specific criteria relevant to the study's objectives.

Instrument

FACT-McGill Body Image Scale (MBIS)

FACT-McGill Body Image Scale H& NC developed by Mellisa Henry, (2018). The scale contains 21 items having two subscale Self-image =10 items, Social-discomfort=11 items 5-point Likert scale 0 = not at all, 1= A little bit, 2= Some-what, 3= Quite a bit, 4 = Very much Higher scores indicate more body image concerns. the reliability of the scale is 0.98 (Henry, M. 2018). The scale yields a total score ranging from 21 to 105, where higher scores indicate greater levels of body image

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concerns. Findings from the validity analysis support the scale's effectiveness in assessing body image concerns among patients with head and neck cancer. Two methods were employed to assess the reliability of the scale. Initially, Cronbach's alpha coefficient was calculated, yielding a high internal consistency value of $\alpha = .94$. Additionally, the split-half reliability was computed, resulting in a correlation coefficient of $r = .74$, further confirming the scale's dependability. The scale comprises two core dimensions. The first factor, termed *self-image*, includes items that reflect patients' personal evaluations of their physical appearance and sense of identity following treatment. The second factor, referred to as *social discomfort*, consists of items that measure the extent of social difficulties or unease experienced by patients due to visible changes or perceived stigma. Together, these dimensions provide a comprehensive measure of body image concerns in individuals diagnosed with head and neck cancer.

Procedure

To conduct this study, a sample of $N=225$ head and neck cancer patients were taken. Purposive sampling technique (non-probability sampling technique) was used to collect data from participants was recruited from multiple hospitals in Rawalpindi and Islamabad. Prior to data collection, permission was obtained from the higher authorities of these hospitals. The participating hospitals were informed about the study's rationale, and informed consent was secured from all participants. Inclusion criteria of the present study, only confirmed diagnosis of Head and Neck Cancer by biopsy or pathology report. The patients under treatment i.e chemotherapy, surgery. Those patients who clearly read and understand the Urdu language. Patient stability to provide informed consent. Exclusion criteria were Patients with comorbidity psychological problems i.e. Neurocognitive, Intellectual Disability were not be part of study

They were assured that their responses would remain confidential and used solely for research purposes. Clear instructions were provided to participants to facilitate accurate responses, and any queries regarding the questionnaire items were addressed promptly. Upon completion of the questionnaires, head and neck cancer patients were thanked for their voluntary participation, emphasizing the importance of their contributions to the research.

Results

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Confirmatory factor analysis (CFA) was conducted to establish construct validity by verifying the underlying factor structure of the translated scale.

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Table 1

Model Fit Indices of Confirmatory Factor Analysis for FACT-McGill Body Image Scale Urdu (N=225)

					Fit indices			
	χ^2	*df*	*p*	χ^2/df	CFI	GFI	TLI	RMSEA
Model 1								
	934.63	128	.000	6.04	.74	.68	71	.13
Model 2								
	521.63	90	.000	3.26	.94	.90	.92	.07

Note. CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation; GFI = Goodness-of-fit index. Model 1 = Default Model for Body Image Scale in Urdu; Model 2 = after adding error covariances.

Confirmatory Factor Analysis (CFA) was performed to assess the model fit of the FACT- McGill Body Image Scale (Urdu version) with a sample of 225 participants. The initial model (Model 1) indicated inadequate fit. Suggesting the need for model modification and after modification indecis the valuse were in acceptable range. According to Bentler (1990), RMSEA values of less than.08 are good, between 0.05 and 0.08 are acceptable, between 0.08 and 0.1 are marginal and greater than 0.1 are poor (Fabrigar et al., 1999). The Comparative Fit Index (CFI) was developed by Bentler (1990), and Tucker-Lewis's index (TLI>.90) was developed by Tucker and Lewis (1973). These indices for Model 2 indicate an acceptable fit, with CFI and TLI values above the .90 threshold and RMSEA within the acceptable range (≤ .08), supporting the adequacy of the modified model.

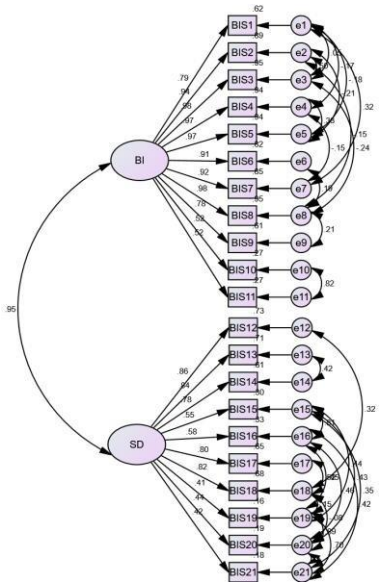
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Figure 1

Confirmatory Factor Analysis of McGill Body Image Scale-Urdu(N=225)



Discussion

The aimed of the study was to translate and validate the *FACT-McGill Body Image Scale* for head and neck cancer patients in indigenous culture Pakistani population. The present study provided evidence supporting the validity and reliability of the Urdu-translated FACT-McGill Body Image Scale. The final version of the scale consists of two subscales and twenty items, one items ("0 = not at all " and "4 = very much"). A total score is also provided by the scale. The scale's total score ranges from 21 to 105, with higher scores reflecting greater levels of body image concerns among head and neck cancer patients. Overall, the findings support the Body Image Concerns Scale as a valid and reliable instrument for assessing body image disturbances in this population. The results of the present study, alongside the original validation by Henry (2013), indicate that the items are particularly sensitive to higher levels of body image concern severity. This suggests that the scale is especially effective in capturing the experiences of individuals with pronounced body image difficulties, particularly within the Pakistani cultural context. Given it's demonstrated psychometric strength, the scale can be confidently utilized by psychologists, counselors, and practitioners working in psycho-oncology, family therapy, and related mental health fields for both

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clinical assessment and research purposes.

Limitations and Future Directions

Despite its contributions, the present study has certain limitations. The sample was obtained from a single clinical site—Combined Military Hospital (CMH) Rawalpindi—which may restrict the generalizability of the findings to broader populations or different healthcare settings.. Future research should validate the Urdu FACT-MBIS in a larger, more diverse sample, including patients from different regions, socioeconomic backgrounds, and rural communities.

Additionally, while the CFA results supported the factor structure of the FACT-MBIS, longitudinal studies are needed to assess the scale's predictive validity over time. Future research should also explore the effectiveness of psychological interventions in reducing shame and stigma in Pakistani cancer patients.

Implication

The validated Pakistani version of the MBIS has significant implications for both clinical and research settings. Clinicians can now use this scale to systematically assess body image distress among HNC patients and implement psychological interventions where necessary. Furthermore, future studies should explore the scale's sensitivity to changes in body image perception over time, particularly in response to reconstructive surgeries and rehabilitation programs. Expanding validation efforts to rural populations and individuals with different literacy levels will enhance its generalizability.

Despite its strengths, this study had some limitations. The sample was primarily hospital-based, which may not fully represent the broader Pakistani population. Additionally, further research should investigate the scale's responsiveness to therapeutic interventions aimed at improving body image perception among HNC survivors.

Conclusion

The translation and validation of the MBIS in the Pakistani context provide a crucial tool for assessing body image concerns in HNC patients. The study underscores the importance of cultural adaptation in psychometric testing and highlights the broader implications for patient- centered care in oncology settings. By integrating this scale into clinical practice, healthcare

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professionals can better address the psychosocial needs of HNC patients and improve their overall well-being.

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