



Arabic Translation of Breast Questionnaire and its Face and Content Validity for Women after Mastectomy from Breast Cancer

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Abstract:

Objective: to translate the breast questionnaire (BRAS-T-Q) into Arabic and test its validity and reliability.

Methods: The study was carried out at an oncology center. It included 87 female patients' post-mastectomy (46.3±9.7 years old). BREAST-Q was translated into Arabic version and was tested for validity (compared to QLQ-C30) and reliability.

Results: The mean of clarity and clearance indices were both 97.12%. The content validity index was 75%-100%. Relevance was 96.15%. Cronbach's alpha values were 0.78-0.92. Test-retest reliability or ICCs >0.92. There were no significant floor and ceiling effects. It took <12 minutes to complete.

Conclusions: Arabic version of BREAST-Q is feasible, reliable, and valid for assessing life quality and satisfaction post-mastectomy in female Egyptian patients.

Keywords: Arabic version, Breast-Q, Cross-cultural adaptation, Reliability, Validity.

1.Introduction:

Breast cancer is the malignant reproduction of epithelial cells in the lobules and ducts that affects women 100 times more than men (1,2). It affects about 7.8 million women (3). It is commonly treated with mastectomy, a complete surgical removal (4). This leads to physical (pain & hypomobility) and psychological problems (5).

BREAST-Q assesses satisfaction, life quality of life, and well-being in women post-mastectomy from breast cancer and is reported by patients (3,6).

It helps clinicians to provide evidence about the efficacy of their treatments and increase care quality (7,8).

Given the population diversity and the need for transnational and multicultural research (9), so, translation and adaptation of such questionnaires and testing their properties are needed to provide valid and reliable measurement tools for use by medical personnel (10).

Cultural adaptation is to systematically modify a measure to consider the language, values, culture, the

context of the client (11, 12). Validity is the extent to which a measure assesses what it is planned to assess (13). Under it, face validity measures the relevance and clearness of items of a measure subjectively by experts (14). As well, content validity is the extent to which the content of a measurement tool and a construct go with each other (15) and is achieved by experts familiar with the construct or the subject (16).

Test-retest reliability is the capability of a measurement tool to consistently measure an outcome twice (17) and estimates the measurement error (18). Internal consistency assesses the consistency of results across items within a measure and is recommended to be ≥ 0.6 (Coefficient of Cronbach's alpha) (19,20).

1. Subjects and Methods:

1.1. : Design and Setting

This cross-sectional study was carried out at Metghmr oncology center. The protocol was approved (No: P.T.REC/012/003856) and registered (ID: NCT05415033). This research complied with the principles of the Declaration of Helsinki. It started from APRIL 2023 to JUN 2023 and followed the recommendations of Sousa and Rojjanasrirat (21).

1.2. Patients:

Experts:

Experts (n=16 in 2 panels) who had experience \geq ten years, worked significantly with the Arabic population, and are fluent in both English and Arabic were included.

Patients:

Women (n=87) post-unilateral mastectomy who were aged 30-60 years, can read and write in Arabic, and received hormonal therapy were included. Patients with mental, verbal, visual, or auditory disorders and patients who didn't cooperate or fill out the questionnaire were excluded.

1.3. Procedures:

Assessment Scale:

BREAST-Q is a valid and reliable patient-reported measure with several subscales which evaluate the satisfaction and life quality of women undergoing mastectomy. Chest or physical well-being scale assesses physical problems such as activity limitation and pain. The cancer worry scale measures the worry patients feel about cancer and surgery. The fatigue scale measures the impact of surgery on life quality or feeling tired. WorkThe work measures the impact of surgery on a patient's work life. Higher scores on any scale except worry, reflect a better outcome (8, 22).

The BREAST-Q questionnaire was translated and adapted into Arabic as applied by Sousa and Rojjanasrirat (21).

Step 1: Forward translation:

The English version was translated to Arabic to produce two versions of the reward-translated scale

(A1 and A2) by two native Arabic translators familiar with medical terms and the content and the Arabic linguistic and cultural tones.

Step 2: Development the initial Arabic version:

Both versions (A I and A2) were contrasted and combined by the authors and other faculty staff members in case of inconsistencies and ambiguities to develop the initial Arabic form (A1, 2).

Step 3: Blind backward translation of the preliminary translated version:

Two backward translated forms (B1 and B2) were created from the initial one by two English translators with the same above-mentioned characteristics.

Step 4: Production of the pre-final Arabic version:

A committee composed of clinicians, authors, language specialists, and translators compared B1 and B2. As well, they compared B1 and B2 to A1,2 to produce the pre-final form.

Step 5: Pilot testing of the pre-final Arabic version:

Two panels of 8 experts each were done to produce the final version. The first one tested face validity (clarity of items) and gave instructions to reach clarity of $\geq 80\%$. The second one tested the content-related validity or relevance (giving a score of 1,2 for non-relevant and 3,4 for relevant items) and suggested adjustments to reach the acceptable level (A kappa of 0.60).

Step 6: Full psychometric testing of the final Arabic version in a sample of the target population

Eighty-seven participants with unilateral mastectomy completed the BREAST-Q Arabic version twice at one-week intervals

3. Results:

Subject characteristics

Eighty-seven females post-mastectomy participated in this study. Their mean \pm SD age was 46.35 ± 9.74 years. 42 (48%) of subjects had the right side affected.

Face validity

The experience of the panel of experts was 17.37 ± 9.2 years.

The clarity index ranged from 63-100% (97.12% on average; excellent). The clearance ranged from 92.31% to 100% (97.12% on average; excellent).

Content validity:

The experience of the panel of experts was 22 ± 9.08 years. The content Validity index (I-ICV) was 100% (excellent) for all items except items 3, 19, 26, 32, and 33 was 75%. S-CVI/AV was 0.97 (97%) and the S-CVI/UA = 0.87 (87%). The relevance ranged from 87.18% to 100% (96.15% on average, excellent).

Reliability

Internal consistency:

Cronbach's alpha values were 0.78-0.92 (good to excellent) as shown in **Table (1)**.

Table 1. Internal consistency or Cronbach's Alpha:

	Number of items	Cronbach's Alpha	95% CI
BREAST-Q	39	0.804	0.740-0.859
Worry	10	0.923	0.896-0.945
Fatigue	10	0.779	0.703-0.842
Work	8	0.798	0.727-0.856
Chest	11	0.777	0.701-0.841

CI: confidence interval

- Test-retest reliability:

The ICCs were 0.93-0.998 (high) as shown in Table (2).

Table 2. Test-retest reliability:

BREAST-Q	ICC	(95% CI)	
		Lower bound	Upper bound
Worry	0.995*	0.989	0.997
Fatigue	0.930*	0.893	0.995
Work	0.998*	0.997	0.999
Chest	0.927*	0.888	0.952

CI, Confidence Interval; ICC, Inter class correlation coefficient value; *: Significant at p < 0.001.

Ceiling and floor effect

There were <15% of the participants scoring "0" and < 5% of them scoring "100" revealing no marked ceiling or floor effects. (Table 3).

Table 3. Distribution of the item response:

	Category of response (%)	
	0-10	90-100
Worry	0	2.3
Fatigue	0	0
Work	10	0
Chest	0	4

Feasibility:

The questionnaire needed an average of 11.97 ± 1.59 min to be answered. There were no missing items. (Table 4).

Table 4. Feasibility (time in minutes taken to fill the questionnaire):

Duration	Count	%
10	18	20.7
11	21	24.1
12	20	23.0
13	10	11.5
14	9	10.3
15	9	10.3
Total	87	100

4. Discussion:

This work was carried out to compare the influences This cross-sectional study tried to translate the BFAST-Q into Arabic and test its validity and reliability. It revealed that the Arabic version of BFAST-Q has a high face and content validity with high test-retest reliability and internal consistency.

These findings came in line with Saiga et al. (23) who found that the Japanese version of BFAST-Q is reliable in assessing the effect of breast surgery on satisfaction and QoL of the patients. However, they reported test-retest reliability coefficients of 0.76–0.95 and Cronbach's alpha coefficients of 0.77–0.98, but in the present study, the coefficients were 0.78–0.92 and 0.927–0.998 which seem higher.

In addition, the Maly version of BFAST-Q was similarly reliable and valid as the Arabic version translated in the current study found that the Maly version had internal consistency between 0.65–0.91 (24).

In agreement with this research, Fuzesi et al. (27) found that BFAST-Q is a valid and reliable measure and reported Cronbach's α coefficients (≥ 0.78) in females who had surgery due to breast cancer.

In line with our study, the Greek version of BFAST-Q was valid and reliable in measuring the life quality and satisfaction of the Greece patient (26). As well, Klassen et al. (27) reported that BFAST-Q is capable of assessing the quality and outcomes of surgery for breast cancer in both clinical and research fields.

Results of the present study agree with Weick et al. (28) who documented that BFAST-Q - Swedish version has high internal consistency and validity

(face and content). However, they reported a lower value of Cronbach's α (0.71–0.85) and also a higher ceiling effect compared to the present study. Afat et al. (29) found that the reduced version of BREAST-Q is a reliable measurement tool, supporting the results of the present study.

Limitations:

This study is limited by including only a sample of females, but mastectomy from breast cancer is very common in females than males. Another limitation is the relatively lower size of the sample.

5. Conclusion:

In light of this work, BREAST-Q - Arabic version is feasible, valid, and reliable for assessing satisfaction and QoL post-mastectomy.

Disclosure statement:

The research did not involve any financial benefits from the author.

Conflict of interest:

Authors have no conflict of interest to declare.

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Conflict of interest

The authors have declared that they do not have any conflict of interest.

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