Translation and cross-cultural adaptation of the Brazilian version of BREAST-Q©: breast reconstruction expectations module

Iara Gama Esteves de Oliveira[1] ⬦, Miguel Sabino Neto[2] ⬦, Luciana Chamone Amaro[1] ⬦,
Henrique Kenji Uehara[3] ⬦, Lydia Masako Ferreira[2] ⬦, Daniela Francescato Veiga[1,4*] ⬦

SUMMARY

OBJECTIVE: This study aimed to translate the BREAST-Q® — Breast Reconstruction Expectations Module (preoperative) 2.0 into Portuguese and adapt it to the Brazilian cultural context.
METHODS: Authorization for translation and cross-cultural adaptation of the questionnaire was obtained from the holders of the instrument's distribution rights. The questionnaire was translated and retro-translated. For cultural adaptation, the instrument was applied to 40 patients who had breast reconstruction surgery scheduled. Cronbach's alpha was used to assess the internal consistency.
RESULTS: The mean age of the patients was 53.5 years, and the majority (72.5%) was undergoing reconstruction with implants. Good and excellent internal consistencies were observed for the Coping and Appearance expectations scales (Cronbach's alpha values of 0.878 and 0.909, respectively). For the Pain scale, the internal consistency was moderate (0.738), and it was acceptable (0.587) for the Medical team.
CONCLUSION: The BREAST-Q® — Breast Reconstruction Expectations Module (preoperative) 2.0 was successfully translated and adapted to the Brazilian context.
KEYWORDS: Breast neoplasms. Mammaplasty. Quality of life. Validation studies. Surveys and questionnaires.

INTRODUCTION

Breast reconstruction plays a major role in the quality of life improvement, and it is considered a part of the breast cancer treatment[1-3]. Patient satisfaction and quality of life measures are essential in the assessment of surgical outcomes after breast reconstruction[4-6].

Patients have expectations regarding the effectiveness of their treatment and postoperative recovery, which are built from information received in the preoperative period[7-9]. Therefore, exploring patients' expectations is important to establish actions in order to avoid misconceptions regarding treatment and to improve satisfaction with the surgical care[10,11].

The BREAST-Q® is a procedure-specific patient-reported outcome (PRO) measure, which was designed to assess patient satisfaction and health-related quality of life following breast surgery[12,13]. The Breast Reconstruction Expectations Module[14] is not yet available for use in Brazil.

This study aimed to translate into Portuguese and adapt the BREAST-Q® — Breast Reconstruction Expectations Module[14] (preoperative) 2.0 to Brazilian cultural context.

METHODS

The Institutional Ethics Committee approved the study, and written informed consent was obtained from all the participants. A convenience sample of 40 women was selected at the Breast Center's Philanthropy Clinics of Sírio Libanês Hospital. Patients diagnosed with breast cancer, aged between 18 and 65 years, and candidates for breast reconstruction after mastectomy by any technique were eligible.

The instrument

The BREAST-Q® — Breast Reconstruction Expectations Module consists of scales developed to be administered preoperatively only[14]. These scales assess expectations for Support from Medical Team (how much time and emotional support the patient expects to receive from the medical team and the surgeon), Pain (magnitude of pain the patient expects to face in the first postoperative week), Coping (how the patient is anticipating she will cope with the process of breast reconstruction during the first postoperative year), and Breast Appearance (expectation with appearance and sensation of the reconstructed breast 1 year after surgery)[14]. The scales can be used either independently or together, and each of them generates a score ranging from 0 to 100.

[1]Universidade Federal de São Paulo, Translational Surgery Graduate Program – São Paulo (SP), Brazil.
[2]Universidade Federal de São Paulo, Division of Plastic Surgery and Translational Surgery Graduate Program – São Paulo (SP), Brazil.
[3]Universidade Federal de São Paulo, Division of Plastic Surgery – São Paulo (SP), Brazil.
[4]Universidade do Vale do Sapucaí, Division of Plastic Surgery – Pouso Alegre (MG), Brazil.
*Corresponding author: danielafveiga@gmail.com

Translation and linguistic validation

Initially, we obtained authorization from the holder of the distribution rights to translate, validate, and culturally adapt the instrument into Brazilian Portuguese. The methodology for translation and cultural adaptation was based on the model recommended by Beaton et al.[15].

The original version of the instrument, i.e., in English, was translated into Brazilian Portuguese by two translators, independently. A multidisciplinary team, which was composed of two plastic surgeons, a psychologist, and a physiotherapist, reviewed the two translations and a consensual version in Portuguese was produced. The linguistic context was appropriately adapted, and all the essential characteristics of the original questionnaire in English were maintained. The idiomatic, semantic, conceptual, and cultural equivalences were preserved.

Two other translators translated the Brazilian version back to English. The same multidisciplinary committee compared the original English version with the translated and back-translated versions of the questionnaire, resulting in another consensual version of the instrument in Portuguese. This new Portuguese version, together with the back-translated version, was sent to the author of the original instrument who approved it.

Cultural adaptation or pretest

The Portuguese version was applied to a group of 20 patients to verify the understanding of the instrument (pretest group 1). All patients were asked to express their understanding of each item and to suggest changes if deemed necessary. Items not understood by 20% or greater of patients were reviewed by the multidisciplinary team, and the instrument was reformulated. A second Portuguese version was produced when all items were understood by at least 80% of the participants.

This Portuguese version 2 was administered to a second group of 20 patients (pretest group 2), who fully understood the content of the instrument and, therefore, version 2 was considered the final version.

Statistical analysis

The scores of each expectation scale (i.e., Medical team, Pain, Coping, and Appearance) were compared by patient´s characteristics via analysis of variance (ANOVA). When there were differences in the means, these were identified by means of the Duncan's multiple range test. The linear association between scores and ages was assessed using Pearson's correlation.

The comparison of mean scores of the expectation scales was performed using Friedman's nonparametric test, due to the violation of the assumption of normality in the data distribution. The internal consistency of the scales was assessed using Cronbach's alpha.

The statistical analysis was performed by using the Statistical Package for Social Sciences (SPSS) version 20.0, and an alpha level of 5% ($p \leq 0.05$) was adopted.

RESULTS

The mean age of the 40 patients was 53.5±9.0 years (range 33–65 years). They were mostly white (67.5%) and nonpartnered women (55%). The education level among the patients extended from elementary school (45%), high school (22.5%), and college (32.5%). The majority (72.5%) intended to perform reconstruction using an implant.

The application of the first Portuguese version to the pretest group 1 resulted in some changes. The term "razoavelmente provável" ("reasonably likely") raised doubts and was replaced by "pouco provável" ("unlikely") in questions 4, 5, 9, 10, 23, and 25. Question 7 was reworded to "... quanta dor você espera sentir com o expansor?" ("... how much pain do you expect to feel with the expander?"). The word "sensibilidade" ("sensitivity") was better understood than the word "sensação" ("sensation"), leading to changes in questions 14, 20, and 22. Finally, in question 24, the word "consciência" ("awareness") was replaced by "percepção" ("perception").

After these modifications, a second Portuguese version of the instrument was created. This version, applied to the pretest group 2, obtained complete cultural equivalence and was considered the final version.

About the expectations regarding information, involvement in decision-making, and the possibility of complications in surgery, 40% of the patients said that they wanted to receive all the information about the surgery, 50% said that they were very involved in decision-making, and 39.4% said that it is very unlikely that any complications will occur after surgery. In the expectations related to the medical team scale, all patients indicated that they thought it would be very likely to receive care quickly and have the surgeon and nurses available when needed, as well as receiving support from them. In contrast, more than 50% said it was unlikely to feel "as if she was unique" and that the surgeon would spend a lot of time with them.

Regarding expectations about pain, more than 57% of patients said that it was unlikely to feel hurt or experience intense pain. However, at least 50% felt very likely to experience discomfort and need a lot of pain medication. As for coping expectations, more than 80% of women believed that the situation is very likely to improve or that adaptation to the new condition is possible.

Regarding expectations with the appearance of the reconstructed breast and the scars 1 year after the surgery, 56.8% of the women said that they expected the new breast to look

beautiful, and 60.6% said that the scars would be somewhat noticeable. At least half of the patients expected that the two breasts will be similar to each other, that they will have some sensation in the new breast, that the size will be slightly different from their natural (smaller or larger), that the new breast will have less movement than the natural, that the sides of the chest will be slightly different than before surgery, and that the sides of the chest will feel normal.

In the assessment of expectations regarding the characteristics of the reconstructed breast, 63.2% of the patients said that they expect the reconstructed nipple to look similar to normal and 57.3% mentioned to believe that they will have no sensation in their nipples after reconstruction. Among women who intended to perform reconstruction using an implant, 67.9% said that the breast will feel harder than the natural and 39.3% said that the new breast will feel like a natural part of their body.

For the expectations after 10 years, 41% of the patients indicated to believe that their breasts will not be as symmetrical as they were after the reconstruction, and 62.9% expected further reconstruction procedures will be unnecessary.

The levels of expectations were not similar between the four aspects (i.e., Medical team, Pain, Coping, and Appearance). The expectation related to pain was lower than the others, which were similar to each other (Table 1).

Table 2 shows Pearson's correlations between age and expectations scores. There was only a weak significant positive association between age and pain score (r=0.351; p=0.033), indicating that the older the patient, the greater her expectation of pain.

There were no differences in mean scores of expectations regarding the Medical team, Pain, Coping, and Appearance in relation to marital status or skin color. Regarding education, differences in means were found only for the expectation score related to the Medical team (p=0.022). Higher education patients had the lowest average compared to the others.

As for the type of reconstruction, differences were found in the pain expectancy score (p=0.036). Women candidates for reconstruction using local flaps had lower average compared to the others, similar to each other.

The scales expectation with Coping and Appearance showed good/excellent internal consistencies (Cronbach's alpha values of 0.878 and 0.909, respectively). The internal consistency for the Pain expectation scale was moderate (Cronbach's alpha value of 0.738) and, for the Medical team, it was acceptable (Cronbach's alpha value of 0.587).

DISCUSSION

To increase the benefits for patients and guide the decision-making process for treatment, accurate and relevant information must be provided preoperatively in a clear, objective, and efficient manner[10,16,17]. When the information received is insufficient, it can lead to imprecise expectations, culminating in disappointment with the surgical result and the postoperative recovery[5,8].

Identifying patients' expectations when making a decision regarding surgical treatment can potentially improve the informed consent process and prepare them for their postoperative recovery and also for the possibility of complications and the need for other treatments[10]. Furthermore,

Table 2. Pearson's correlation between age and scores of expectations regarding the Medical team, Pain, Coping, and Appearance.

Scales of expectation	Pearson's Correlation	
	Estimate	p
Medical team	-0.203	0.221
Pain	0.351	0.033
Coping	-0.100	0.557
Appearance	-0.144	0.388

Table 1. Summary measures of the expectations scores regarding the Medical team, Pain, Coping, and Appearance and comparison between the scales.

	Expectations Scales			
	Medical Team[A]	Pain[B]	Coping[A]	Appearance[A]
Variation	54–100	0–80	42–100	53–100
First Quartile	78	30	100	91
Median	78	48	100	100
Third Quartile	100	59	100	100
Mean±SD	82.8±14.5	43.3±19.7	95.2±13.7	93.2±13.3
Friedman's test	p<0.001*			

*p: Descriptive level of Friedman's nonparametric test. [A, B] Different means according to multiple Dunn-Bonferroni comparisons.

exploring expectations individually can allow surgeons to recognize patients who have unrealistic expectations, in order to address misunderstandings in the preoperative moment, through better education. When multiple surgical options exist, shared decision-making can be enhanced by careful exploration of expectations[16].

The BREAST-Q© — Breast Reconstruction Expectations Module (preoperative) 2.0 was successfully translated and adapted to the Brazilian context. To the best of our knowledge, there is no other validated instrument to assess expectations regarding breast reconstruction among Brazilian patients. The availability of this instrument for use in Brazil makes it possible to measure, accurately, information about patients' expectations for use in clinical trials and clinical practice. Knowledge of Brazilian patients' expectations regarding breast reconstruction will allow identifying opportunities to improve patient education and promoting greater postoperative satisfaction and quality of life.

CONCLUSION

The BREAST-Q© — Breast Reconstruction Expectations Module (preoperative) 2.0 has been translated and adapted to the Brazilian context.

AUTHORS' CONTRIBUTIONS

IGEO: Conceptualization, Data curation, Formal Analysis, Investigation, and Writing – review & editing. **MSN**: Conceptualization, Formal Analysis, Supervision, Writing – review & editing. **LCA**: Formal Analysis, Writing – original draft, and Writing – review & editing. **HKU**: Formal Analysis, Writing – original draft, and writing – review & editing. **LMF**: Conceptualization, Formal Analysis, and Writing – review & editing. **DFV**: Conceptualization, Methodology, Formal Analysis, Supervision, Writing – original draft, and Writing – review & editing.

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