

Validity and Reliability Study of Patient Satisfaction Level-Questionnaire (UNS-BsQ8) for Breast Fibroadenoma Patient after Surgery

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ABSTRACT

Background: This study aimed to develop a patient satisfaction level-questionnaire (UNS-BsQ8) for breast fibroadenoma patients in Indonesia and to test the reliability and validity of the questionnaire by using established models.

Methods: A total of 83 women with breast fibroadenoma completed the questionnaire after their surgeries. We assessed the construct validity and the reliability by referring to its Pearson's r table value and Cronbach's α coefficient.

Results: It showed that 83 subjects completed all 8 questions of the instrument between January 1–31, 2020; the Pearson's value of all items of the UNS-BsQ8 with the lowest value of $r = .398$ in question number 8, followed by $r = .411$ in question number 7 with an r -value of $r > .1584$ indicated that these questions were valid. Cronbach's α coefficient of $> .60$ indicated questionable internal consistency.

Conclusions: The result of this study proves that UNS-BsQ8 is accepted, valid, and reliable. It can be used for future investigation, especially in patients undergoing minimally invasive surgery.

INTRODUCTION

Fibroadenoma is one of the most common benign tumors of the breast in the adolescent. They count for 69% of all breast masses and 44–94% of all biopsied breast lesions. Endoscopic surgery, vacuum-assisted percutaneous biopsy, and ablative procedure are the procedure options to remove fibroadenoma up to 3 cm in size [1]. However, there are still only a few researches regarding their quality of life in Indonesia [2,3]. Patient satisfaction level measurement should reflect the domains including the physical, social, and cultural environments, and it is common but also able to show the uniqueness of all subjects [4]. The questionnaire is a generic measure that could be applied in any adult population. A Standard questionnaire is ideally valid and reliable, which means that the measurement reflects the concept and is consistent [5].

In Indonesia, the validity and reliability of the instrument are still on development, especially in breast fibroadenoma patients. A few validity and reliability tests of the Indonesian version of the Patient Satisfaction Survey have been done in a few groups of benign

patients in Germany [6]. However, differences between Germany and Indonesian languages, traditions, and cultures require the development of a needs assessment questionnaire specifically for Indonesian patients [7].

This study aimed to develop a patient satisfaction level-questionnaire (UNS-BsQ8) for breast fibroadenoma patients in Indonesia and to test the reliability and validity of the questionnaire by using established models.

METHODS

Patients

Each subject either filed an online form or underwent an interview by phone, chat, or face to face interview in the Oncology Outpatient Clinic of Kasih Ibu Hospital. A total of 91 community members were contacted between January 1–31, 2020, and selected by the following inclusion criteria: (1) at least 30 years of age, (2) able to complete the questionnaire by themselves, and (3) having no communication problem. The exclusion criteria are having a degenerative disease and/or mental

illness and malignant disease. Among 91 community members, only 83 agreed to participate in this study and completed the questionnaire.

This cross-sectional study was ethically approved by The Health Research Ethics Committee of Faculty of Medicine of Sebelas Maret University on June 27, 2018, no. 118/UN27/6/KEPK/2018.

Instrument

The UNS-BsQ8 was a designed combination of ordinal scaled (grading scale from 1 – poor to 5 – excellent). To measure patient satisfaction, we administered the patient satisfaction questionnaire.

Table 1. UNS-BsQ8 design

Questionnaire
<p>Question 1: How would you classify your condition after surgery? Grade 1–5 (1= Poor, 2=Fair, 3=good, 4=very good, 5=excellent)</p>
<p>Question 2 How would you classify your wound healing progress? Grade 1–5 (1=poor, 2=fair, 3=good, 4=very good, 5=excellent)</p>
<p>Question 3 The cost of surgery is expensive Grade 1–5 (1=Strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree)</p>
<p>Question 4 There is no change of your breast shape Grade 1–5 (1=Strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree)</p>
<p>Question 5 How would you classify pain in the wound surgical site? Grade 1–5 (1. Always, 2=often, 3=neutral, 4=seldom, 5=never)</p>
<p>Question 6 How would you classify pain in the shoulder? Grade 1–5 (1. Always, 2=often, 3=neutral, 4=seldom, 5=never)</p>
<p>Question 7 How you classify your scar after surgery? Grade 1–5 (1=poor, 2=fair, 3=good, 4=very good, 5=excellent)</p>
<p>Question 8 Scar after surgery makes uncomfortable Grade 1–5 (1. Always, 2=often, 3=neutral, 4=seldom, 5=never)</p>

From **Table 1**, questions number 1 and 2 described the wound healing satisfaction level, questions 3 describe cost satisfaction monitor, questions 4 about breast shape after surgery, questions 5 and 6 the pain after surgery level, and questions 7 and 8 scar formation after surgery satisfaction level.

The UNS-BsQ8 is easily scored and consists of 8 items designed to measure patient satisfaction with

services. Each item shows a score of 1 to 5. Final scoring is conducted by summing up the individual item scores to produce a range of 8 to 40 with higher scores representing greater satisfaction (satisfied = 40–30, neutral = 29–20, unsatisfied = 19–8). Validity and Reliability tests were also conducted, and, in conclusion, the questionnaire can be used in patients with breast fibroadenoma after surgery.

Statistical Analysis

In this cross-sectional study, a minimum of 40 samples is needed to conduct validity and reliability tests. Construct validity was measured by referring to Pearson’s *r* table correlation value, and the reliability was measured by referring to Cronbach’s alpha coefficient. The value of Pearson’s *r* table must be > .1548 and Cronbach’s alpha coefficient > .60.

The demographical questions were also asked the respondents including age and educational level. The data were collected and then analyzed by using IBM SPSS Statistics 25 for Windows.

RESULTS

A total of 40 patients underwent surgery between 2017–2019 came to Oncology Outpatient Clinic from January 1–31, 2020.

Table 2. Subject characteristics

Characteristic	Frequency (n = 40)	(%)
Age		
< 30	28	70
> 31	12	30
Education Level		
Senior High School	6	15
Diploma	10	25
Bachelor Degree	18	45
Master Degree	6	15

Table 2 shows the characteristics of the respondents in this study. All the respondents were female with a mean age of 24 years old. Based on the educational status, most of the respondents graduated from bachelor’s degree (45%) and diploma (35.96%).

Table 3 shows Pearson’s *r* value and Cronbach’s alpha coefficient for all 8 questions. The Pearson’s value of all items of the UNS-BsQ8 shows *r* > .1548 with the lowest value of *r* = .398 in item number 8, followed by *r* = .411 in item number 7. Other than that, all items show the value of *r* > .300. The Cronbach’s alpha coefficient in all items shows a value of > .600, between the range of 0.606 and 0.609, supporting the internal consistency of the item.

Table 3. Pearson's *r* value and Cronbach's alpha coefficient

Scale	Pearson's <i>r</i> value	Cronbach's Alpha
Question 1	0.624	0.606
Question 2	0.593	0.614
Question 3	0.524	0.664
Question 4	0.412	0.683
Question 5	0.536	0.658
Question 6	0.455	0.645
Question 7	0.411	0.662
Question 8	0.358	0.669

The mean age of participants was 24 years with 19 years old as the youngest and 38 years old as the oldest participant. In a large population of another study in 265,402 women, the mean age of development of breast fibroadenoma included the young age (< 30 years old) [1].

The validation of UNS-BsQ8 was performed by evaluating the construct validity and reliability, referring to Pearson's $r > .1548$ and Cronbach's alpha $> .60$. All items showed $r > .1548$ so that all items of UNS-BsQ8 were valid and reflected the concepts. The Cronbach's alpha showed a value of $> .60$ ranging around 0.606–0.669. It means that all items had questionable internal consistency.

Despite all questions that showed the value of $r > .1548$, some questions had a lower value than the others. Question number 8 (Scar after surgery) had the lowest value, showing $r = .398$. From the previous study, patients might experience postoperative cosmetic deformity or secondary asymmetry, especially after the removal of fibroadenoma [8]. Another question that had a quite low value than the others ($r = .411$) was question number 7 (classify their scar). All those questions were associated with scar formation questionnaires, and this low value might be caused by the respondents having a hard time translating what they exactly felt and the lack of information for reconstructive surgery and at subsequent follow-up appointments [9]. Overall, based on Pearson's r and Cronbach's alpha values, all questions were valid and reliable and could be used as an instrument to assess the patient satisfaction level especially in patients with benign breast tumors.

This study also had some limitations. Validity and reliability tests for other quality of life instruments analyzed the validity by referring to not only its Pearson's r -value but also other validity tests such as convergent and discriminant validity, known-group validity, and factor analysis [6]. Further validity and reliability tests in other groups are also needed.

CONCLUSIONS

The result of this study proves that UNS-BsQ8 is an accepted, valid, and reliable tool for the patient with breast fibroadenoma after surgery. The usage of UNS-BsQ8 in recent years has already delivered meaningful data that may serve as a benchmark for future investigation especially patients undergoing minimally invasive surgery.

DECLARATIONS

Competing of Interest

The authors declare no competing interest in this study.

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