

Translation and validation of the EORTC QLQ-CX24 questionnaire into the indigenous African languages of isiXhosa and Afrikaans

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Abstract

Objectives: Quality of life (QOL) assessment plays an important role in oncological clinical practice and research settings when evaluating treatment outcome. Cervical cancer remains a prevalent disease in South African women. The current study translated the European Organisation for Research and Treatment of Cancer (EORTC) cervical cancer module, QLQ-CX24, into isiXhosa and Afrikaans and validated the questionnaires.

Setting and subjects: The QLQ-CX24 was translated forwards into isiXhosa and Afrikaans and backwards into English, and then reconciled by four independent language practitioners. The translated version was completed by 15 isiXhosa- and 15 Afrikaans-speaking patients with cervical cancer. Cronbach's alpha coefficient, a measure of internal consistency of response, was calculated. The conversion validity was evaluated by assessing the correlation between each item and its scale. Discriminant validity was examined by comparing the correlation values of each item with other scales using Pearson's and Spearman's correlation coefficients.

Results: The translated isiXhosa and Afrikaans questionnaires demonstrated good conversion validity in the multi-item scales, with values of Cronbach's alpha coefficient ≥ 7 . Discriminant validity was demonstrated in the single-item questions. Patients completed the questionnaires in less than 20 minutes.

Conclusion: The translated isiXhosa and Afrikaans versions of QLQ-CX24 were successfully translated and validated and is available for research and clinical use.

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Introduction

South Africa has a high incidence of cervical cancer (26.6/100 000) and disease-associated mortality (14.5/100 000).¹ A previous study showed advanced stage of presentation in the majority of cases, with five-year survival of 35% in stage III disease.² Advanced stage of disease at presentation results in considerable disease- and treatment-related morbidity.³ Quality of life (QOL) in patients afflicted by cancer has become a major determinant in deciding on treatment options and it has become an integral part of oncology practice and research. The European Organisation for Research and Treatment of Cancer (EORTC) has a generic questionnaire (QLQ-30 version 3) that assesses the general quality of life of all cases of malignancy.⁴ A specific mode for cervical cancer (QLQ-CX24) has been developed and has been used in clinical research. The

QLQ-30 is available in Afrikaans, isiXhosa and isiZulu, but the QLQ-CX24 questionnaire is not. The QLQ-CX24 consists of three multi-item scales and six single items that are not assessed by the core instrument (QLQ-30). Multi-items in QLQ-CX24 scales are symptom scales (questions 31-37, 39 and 41), body image (questions 45-47) and sexual and vaginal function (questions 50-53). The questionnaire allows for four options of response to each question (Table I).⁵

Method

The English version of the questionnaire was translated into isiXhosa and Afrikaans according to the EORTC criteria. The original items were translated from English into isiXhosa and Afrikaans by two independent language practitioners through a process of forward translations, resolution and backward translation by

Table 1: European Organisation for Research and Treatment of Cancer: QLQ-CX24

Patients sometimes report that they have the following symptoms or problems. Please indicate the extent to which you have experienced these symptoms or problems. Please answer by circling the number that best applies to you.					
During the past week:		Not at all	A little	Quite a bit	Very much
31	Have you had cramps in your abdomen?	1	2	3	4
32	Have you had difficulty in controlling your bowels?	1	2	3	4
33	Have you had blood in your stools (motions)?	1	2	3	4
34	Do you pass water/urine frequently?	1	2	3	4
35	Have you had pain or a burning feeling when passing water/urinating?	1	2	3	4
36	Have you had leaking of urine?	1	2	3	4
37	Have you had difficulty emptying your bladder?	1	2	3	4
38	Have you had swelling in one or both legs?	1	2	3	4
39	Have you had pain in your lower back?	1	2	3	4
40	Have you had tingling or numbness in your hands or feet?	1	2	3	4
41	Have you had irritation or soreness in your vagina or vulva?	1	2	3	4
42	Have you had discharge from your vagina?	1	2	3	4
43	Have you had abnormal bleeding from your vagina?	1	2	3	4
44	Have you had hot flushes and/or sweats?	1	2	3	4
45	Have you felt physically less attractive as a result of your disease or treatment?	1	2	3	4
46	Have you felt less feminine as a result of your disease or treatment?	1	2	3	4
47	Have you felt dissatisfied with your body?	1	2	3	4
During the past four weeks:		Not at all	A little	Quite a bit	Very much
48	Have you worried that sex would be painful?	1	2	3	4
49	Have you been sexually active?	1	2	3	4
Answer these questions only if you have been sexually active during the past four weeks:		Not at all	A little	Quite a bit	Very much
50	Has your vagina felt dry during sexual activity?	1	2	3	4
51	Has your vagina felt short?	1	2	3	4
52	Have your vagina felt tight?	1	2	3	4
53	Have you had pain during sexual intercourse or other sexual activity?	1	2	3	4
54	Was sexual activity enjoyable for you?	1	2	3	4

another two independent language practitioners and resolution of differences.

The validation of the translated questionnaire was carried out at the Unit of Gynaecological Oncology at Tygerberg Hospital. Ethics approval was obtained from the Faculty of Health Sciences (Number S11/10/008). Informed consent was obtained before enrolment. The translated questionnaires were completed by patients with cervical cancer. Upon completion of the questionnaire, they were given the opportunity to provide feedback on possible encountered problems. The study included 15 isiXhosa- and 15 Afrikaans-speaking patients. Mean and standard deviation for each scale (multi- and

single items) were calculated. Cronbach's alpha coefficient, a measure of internal consistency of response, was used. A magnitude of ≥ 0.7 was considered to be acceptable. Correlation between items within the two language questionnaires was analysed using multi-trait scaling. The conversion validity was evaluated by assessing the correlation between each item and its scale. Discriminant validity was examined by comparing the correlation values of each item with other scales using Pearson's and Spearman's correlation coefficients.

Results

The mean age of the groups was 41.8 years (28-55) for the

isiXhosa group and 51.8 years (29-70) for the Afrikaans group. Of the total (30) participants, four were illiterate. Employment records showed that 13 were unemployed and 17 were involved in manual labour as an occupation, e.g. factory workers, farm labourers and petrol pump attendants. All of the participants were in the advanced stage of the disease and were being treated with radiotherapy. Completion of the questionnaires could be performed in less than 20 minutes. Of note was that only five isiXhosa and two Afrikaans patients answered the questions relating to sexual and vaginal function, reflecting a low incidence of sexual activity. All patients found the questionnaires to be acceptable. Correlation results of the multi-item scales and single items were performed using the tests for item convergent and discriminant validity. The isiXhosa results are shown in Table II. Internal consistency was satisfactory in all scales with Cronbach $\alpha > 0.70$ (symptom experience 0.70,

body image 0.76, sexual and vaginal functioning 0.83). The Afrikaans results are shown in Table III. The internal consistency was satisfactory in all scale with Cronbach $\alpha > 0.70$ symptom experience 0.71, body image 0.85, sexual and vaginal functioning 0.96. Discriminant validity was determined by correlation coefficient and was satisfactory.

Discussion

South Africa has 11 officially recognised languages. The Western Cape province of South Africa, where the current study was carried out, has three official languages. Afrikaans (55.3%) is the spoken the most, followed by isiXhosa (23.7%) and English (19.3%).⁶ QOL assessment of the patients in their home language is of paramount importance so that optimal treatment-related decisions can be taken.

Table II: Multi-trait scaling analyses with Pearson correlations between scale items on cervical cancer module of the European Organisation for Research and Treatment of Cancer Quality of Life questionnaire for isiXhosa speakers

Scale	Mean \pm SD	Cronbach α	Item-own scale correlation*	Item-other scale correlation
Symptoms experienced (items 31-37, 39, 41-43)	22.2 \pm 5.52	0.70	0.13-0.62	0.14-0.97
Body image (items 45-47)	6.13 \pm 2.72	0.76	0.44-0.64	0.3-0.96
Sexual/vaginal functioning (items 50-53)	10 \pm 4.66	0.83	0.32-0.98	0.26-0.55
Lymphoedema (item 38)	6.93 \pm 4.4	NA	NA	0.04-0.85
Peripheral neuropathy (item 40)	7.2 \pm 4.58	NA	NA	0.41-0.77
Menopausal symptoms (item 44)	9.07 \pm 5.34	NA	NA	0.29-0.83
Sexual worry (item 48)	10.4 \pm 5.62	NA	NA	0.65-0.81
Sexual activity (item 49)	5.6 \pm 2.53	NA	NA	0.27-0.91
Sexual enjoyment (item 54)	2.13 \pm 4.5	NA	NA	0.04-0.66

NA: not available, SD: standard deviation

* Corrected for overlap

Table III: Multi-trait analyses with Pearson correlations between scale items on cervical cancer module of the European Organisation for Research and Treatment of Cancer Quality of Life questionnaire for isiXhosa speakers

Scale	Mean \pm SD	Cronbach α	Item-own scale correlation*	Item-other scale correlation
Symptoms experienced (items 31-37, 39, 41-43)	19.3 \pm 3.67	0.71	0.26-0.53	0.03-0.73
Body image (items 45-47)	4.86 \pm 2.5	0.85	0.55-0.85	0.44-0.94
Sexual/vaginal functioning (items 50-53)	7 \pm 4.24	0.96	0.99-1	0.32-0.65
Lymphoedema (item 38)	5.87 \pm 3.66	NA	NA	0.38-0.86
Peripheral neuropathy (item 40)	5.07 \pm 2.38	NA	NA	0.57-1
Menopausal symptoms (item 44)	8 \pm 4.54	NA	NA	0.39-0.57
Sexual worry (item 48)	5.87 \pm 3.66	NA	NA	0.14-0.72
Sexual activity (item 49)	5.07 \pm 3.20	NA	NA	0.14-0.85
Sexual enjoyment (item 54)	1.33 \pm 4.19	NA	NA	0.27-0.86

NA: not available, SD: standard deviation

* Corrected for overlap

Different translational approaches to medical questionnaires include the linguistic, text-linguistic and functionalist approaches. Unfortunately, professional translators are not always familiar with the terminology, colloquial language or literacy levels of the target audiences. The translation model that was used in the current study met most of the requirements with regard to medical questionnaires and has been described and proven in the current target population. In the current study, four patients were illiterate and the questions were read to them. Socio-economic status was reflected by the high unemployment rate of 43.3%. In the study group, the majority of employed patients were manual labourers. Guidelines to translations that do not consider the target audience's education level and literacy rate can lead to communication gaps, which can pose problems for medical researchers. This is particularly true of translations into the African languages, such as isiXhosa or colloquial Afrikaans that is spoken by the Cape coloureds (people of mixed ancestry through exogenous union or intermarriage, or those who are affiliated to Cape Muslims).⁷ The use of sophisticated medical terminology when referring to bodily functions such as "micturition", "defecation" and "coitus" can result in confusion and misunderstanding. Colloquial terms were used in these circumstances for completion of the study questionnaires.

Statistical analysis of the translated questions revealed acceptable conversion validity and discriminant validity in both isiXhosa and Afrikaans versions of the translation. The small number of respondents to the sexual scales was a possible limiting factor. In the current study, the high percentage (76%) of responders indicated that they were not sexually active. This is in keeping with previously reported figures from other studies.⁸

Conclusion

In conclusion, the translated isiXhosa and Afrikaans versions of the EORTC QLQ-CX24 questionnaire are a reliable and valid measure of the QOL of patients with cervical cancer. Our results indicate that this questionnaire could be used in clinical and epidemiological cancer research to study the QOL of isiXhosa- and Afrikaans-speaking patients with cervical cancer.

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