Translation and Validation of EORTC QLQ-PR25 Questionnaire for Assessing Quality of Life of Prostate Cancer Patients in a Moroccan Population

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Abstract: Understanding the effects of prostate cancer on quality of life of affected patients is essential for clinical research and also for optimal management and care. The main objective of this study was to evaluate the psychometric properties of a Moroccan dialect version of the quality of life questionnaire (EORTC QLQ-PR25). The study was conducted among patients with prostate cancer in oncology department of the Ibn Rochd University Hospital Mohammed VI Center for cancers treatment in Casablanca during the period of study (from January to December 2017). Statistical analysis data was done using R software. Internal consistency was tested using Cronbach's alpha. A total of 82 subjects were included, the mean age of patients was 69.6 years with a standard deviation of 7.9 years. The majority of them were illiterate, with 59.8%, and urban people about 60%. Good reliability was revealed for the Moroccan dialect version with Cronbach's alpha coefficient ranging from 0.17 for "sexual function" dimension to 0.83 for "urinary symptoms" dimension. Reproducibility of the scale was good with intra-class correlation coefficients ranging from 0.69 for "sexual function" dimension to 0.87 for "urinary symptoms" dimension. Scale reproducibility was good with intra-class correlation coefficients ranging from 0.69 for "sexual function" dimension to 0.87 for "urinary symptoms" dimension. Dialectal version obtained showed good reliability for the dimension "urinary symptoms" and acceptable for other dimensions except for "sexual function" which was not satisfactory.

Key words: Prostate cancer, quality of life, EORTC QLQ-PR25.

1. Introduction

Prostate cancer is the most common cancer in men over 50 years old.

In 2018, about 1.3 million prostate cancer diagnoses worldwide is estimated, contributing to about 7.1% of the total cancer incidence burden [1].

In Morocco, according to the register of large Casablanca and Rabat 2012, prostate cancer accounts for 12.4% and 19.2% respectively of all cases of registered cancers in men [2, 3].

Its incidence has been increasing in recent years due

to the increase in the life expectancy of populations (aging of the population) and improvement of diagnostic techniques, as well as the effect of screening, which has become more and more important by assaying prostate-specific antigen (PSA), and which now promotes detection at an early stage.

Cancer usually has a different clinical evolution with different expected survival times depending on the type of tumor, its location, time of detection and treatment applied. Usually, the simple fact of suspicion and diagnosis of cancer brings very high anxiety, insecurity, and uncertainty of tomorrow, which is usually related to a strong depression. At the same time, the disease brings man back to the basic level of

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values and needs such as the preservation of life or health or psychosomatic comfort. Another factor that greatly reduces the quality of life of hospitalized patients is the feeling of helplessness and passivity in the situation.

The effectiveness of treatments is proven, but they cause side effects, the main ones are manifested by a deterioration of function or sexual abilities. This deterioration strongly influences the psychological state of patients.

Quality of life is an extremely subjective value, and depends to a large extent on individual mental state, personality traits, tastes and values.

Evaluation of quality of life of chronically ill patients becomes more and more important in medicine, especially oncology.

Understanding the effects of cancer on quality of life of affected patients is essential for clinical research, treatment monitoring, and treatment response. The study of quality of life is useful for guiding management decisions and for monitoring effect of cancer [4].

Quality of life can not only assess functional abilities, but also symptoms, side effects and other issues such as social, psychological, spiritual, family and financial aspects. Evaluation of quality of life becomes a standard part of overall care of cancer patients. Use of quality of life measurement is generally welcomed by patients who wish to express their concerns.

As only educated Moroccans have mastered the official language (standard Arabic) in Morocco, we have translated the questionnaire into Arabic dialect, in the language commonly spoken by Moroccans.

In Morocco, there is no experience of measures reported by prostate cancer patients, but there was one that was done in 2014 concerning cancer patients (QLQ-C30) [5].

2. Materials and Methods

2.1 Translation and Cultural Adaptation of the EORTC QLQ-PR25

EORTC QLQ-PR25 is a quality of life measurement instrument designed by the EORTC group. This is a

specific scale for prostate cancer patients with 25 items and six dimensions. The functional dimensions are represented by “sexual activity” and “sexual functioning”. The symptom dimensions are represented by “urinary symptoms”, “bowel symptoms”, “hormonal treatment-related symptoms” and “incontinence aid”. The items composing the symptom dimensions evaluate the quality of life during last week and those composing functional dimensions refer to the last four weeks. The transcultural adaptation was carried out in five stages according to recommendations of Beaton et al. [6]. This cross-sectional face-to-face study was conducted in patients followed in the oncology department, in the period from January to December 2017, and who agreed to participate in the study.

2.2 Recruitment of Patients

The study was spread over a period from January to December 2017. The patients were recruited in one of the main oncology centers in Morocco (oncology center of Ibn Rochd Hospital in Casablanca). Patients were eligible with histological confirmation of cancer and if they spoke Moroccan Arabic.

All subjects were informed by the conditions of the study and gave their written and informed consent to participate in the study.

2.3 Instrument and Procedure

Arabic version of EORTC QLQ-PR25 was administered to patients by two different investigators. The order of investigators was defined randomly. The re-administration of the same questionnaire was done 30 minutes later.

Beside the translated questionnaire, we have collected other sociodemographic type variables such as age, intellectual level, health insurance, occupation and others, and others of the clinical type such as the stage of the disease.

2.4 Statistical Analysis

Scores on items and scales were linearly transformed to a scale from 0 to 100.

A higher score for a functional scale, the higher a healthy level of functioning, whereas a high symptom score represents a high level of symptomatology [7].

Descriptive statistics were generated to study score distribution (e.g., mean, standard deviation, floor and ceiling effects).

Reliability of internal coherence of multi-element scales was evaluated by Cronbach's alpha coefficient. A value of 0.70 or more was considered adequate [8]. Reliability between evaluators and test-retest were evaluated by intraclass correlation coefficient ICC. All statistical analyses were done using R software.

3. Results

The study was conducted on a group of 82 men, mean age of patients was 69.59 years with a standard deviation of 7.97 years. Patients over the age of 70 accounted for 48.9%, the majority of cases were married (89%), and urban residents accounted for 59.8%. Nearly 59.8% of patients were illiterate and 75.6% had a low socio-economic level (Table 1).

3.1 Acceptability

Average time to administer QLQ-PR25 questionnaire was 10 minutes. Items for which answers were the point of "sexual functioning" scale.

3.2 Statistical Description

Score distributions are shown in Table 2. Scale scores ranged from 9.86 to 64.02. The lowest score was assigned to "Bowel symptoms" scale with an average of 8.33 and "Sexual Activity" scale at 66, 66. The most common symptoms were urinary problems and sexual functions. High ceiling or floor effects were observed for "incontinence aid", "Bowel Symptoms" and "Sexual Activity" scales.

3.4 Reliability

Cronbach's α coefficient ranged from 0.17 for "sexual function" to 0.83 for "urinary symptoms", indicating good internal consistency (Table 3).

Table 1 Sociodemographic and clinical characteristics of prostate cancer patients.

	Effectif (N = 82)	Percentage (%)
Age		
< 54	1	1, 2
55-59	5	6, 1
60-64	17	20, 7
65-69	19	23, 2
70-74	19	23, 2
75-79	13	15, 9
>80	8	9, 8
Marital status		
Married	73	89
Single	3	3, 7
Divorced	0	0
Widowed	6	7, 3
Niveau d'étude		
Illiterate	49	59, 8
Primary	20	24, 4
Secondary	7	8, 5
University	6	7, 3
Profession		
Unemployed	6	7, 3
Employed	5	6, 1
Liberal Function	47	57, 3
Retired	24	29, 3
Socio-economic level		
Low	62	75, 6
Average	19	23, 2
High	1	1, 2
Residence		
Urban	49	59, 8
Rural	29	35, 4
Suburban	4	4, 9
Stage of treatment		
Before treatment	39	47, 6
During treatment	37	45, 1
After treatment	6	7, 3

Test-retest reliability was assessed using intra-class correlation coefficient, which ranged from 0.69 for "sexual functioning" to 1 for "incontinence aid".

4. Discussion

This study reports the results of an adaptation and an intercultural evaluation of psychometric properties of the Moroccan Arabic version of EORTC QLQ-PR25.

Table 2 Scales of subscales and floor and ceiling effect of EORTC QLQ-PR25.

	N	Median	Mean	Standard deviation	Floor effect (%)	Ceiling effect (%)
Sexual activity (PRSAC)	82	66.66	64.02	33,07	8.5	35.4
Sexual functioning (PRSFU)	82	62.5	61.45	21,27	0.0	6.3
Urinary symptoms (PRURI)	82	45.83	45.53	25,88	3.8	0.0
Bowel symptoms (PRBOW)	82	8.33	9.86	12,36	43.9	0.0
Hormonal treatment-related symptoms (PRHTR)	82	24.44	27.35	14, 98	2.4	0.0
Incontinence aid (PRAID)	82	16.66	38.9	49, 06	50	33.3

Table 3 Internal coherence and reliability of the EORTC QLQ-PR25.

	Coefficient Cronbach's α	Inter-observer reproducibility ICC	(IC 95%)
Sexual activity (PRSAC)	0.5	0.833	[0.74; 0.90]
Sexual functioning (PRSFU)	0.17	0.69	[0.18; 0.98]
Urinary symptoms (PRURI)	0.83	0.87	[0.71; 0.95]
Bowel symptoms (PRBOW)	0.3	0.83	[0.7; 0.93]
Hormonal treatment-related symptoms (PRHTR)	0.31	0.72	[0.57; 0.83]
Incontinence aid (PRAID)	-	1	-

This instrument was developed in 1996 by the European Organization for Research and Treatment of Cancer. EORTC QLQ-PR25 was validated internationally in 2008 [9] and is currently available in more than 32 languages (www.eortc.be).

To our knowledge, this is the first validation in Moroccan Arabic. This new validated scale will provide information on functional health and well-being of Moroccan patients in order to provide them with adequate health care.

To obtain this scale, we followed the international guidelines for intercultural adaptation of health-related quality of life measures [6, 10].

The delay between test and retest was on average 30 minutes.

Streiner and Norman indicate that expert opinion on appropriate interval varies from one hour to one year, depending on the task, but a re-analysis interval of 2 to 14 days is usually used [11, 12]. In this study, an interval of 30 minutes was set with two different interrogators of random order.

Reliability and validity of the Moroccan Arabic version of EORTC QLQ-PR25 were satisfactory. The hypothetical scale structure of the questionnaire has

been largely confirmed.

The Cronbach's α coefficient was high for all scales except for "sexual functioning", indicating adequate internal reliability. It reaches a satisfactory level (0.83) which is similar for that found in Taiwan (0.80) [13].

Surgical treatment is known to entail erectile dysfunction and function recovery often occurs up to five years after treatment [14]. Even nerve-sparing surgery has a consequence for sexual functioning [15], although less invasive surgical techniques are advocated to reduce the impact on sexual and urinary function [16]. Sexual dysfunction is also known as the therapeutic consequence of external radiotherapy and brachytherapy [17]. For this reason, there is not only a need for patient-centered care but also models of relationship and supportive care are important for the patient and his partner.

Due to the high level of illiteracy, two investigators administered a questionnaire to all patients, the first investigator for the first handover and the second for second handover. Unlike other countries, the questionnaire can only be administered in a self-administered way for a minority of the Moroccan population.

5. Conclusion

Arabic version of EORTC QLQ-PR25 questionnaire was a reliable instrument, valid and constitutes a valid measure of the effect of cancer on quality of life of Moroccan patients with prostate cancer.

It is necessary to carry out cancer associations whose objective is to improve conditions for early diagnosis of all types of cancer, therapeutic management in order to limit consequences on quality of life of patients and to improve the possibilities of healing. Accompaniment of couples during and after treatments must be a future therapy because it has an impact on the relation of two partners, also on their relation.

Acknowledgements

We would like to thank all the staff of the Cancer Treatment Center of Ibn Rochd University Hospital and the Laboratory of Genetic and Molecular Pathology for their collaboration. We also thank all patients for their participation in this study. We gratefully acknowledge Mrs. Fadma El Houssaini, Mr. Abdellah Salmi, and all my family for their support.

Conflict of Interest

The authors declare that they have no competing interests.

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