Basic methods for the assessment of the health related quality of life in uro-oncological patients

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BACKGROUND: The evaluation of patients’ expectations and quality of life in uro-oncology is considered an important outcome of treatment efficacy and satisfaction.

Aim of this systematic review was to evaluate the most frequently adopted tools in uro-oncology to assess Health Related Quality of Life (HRQoL).

EVIDENCE ACQUISITION: A systematic literature search until October 2015 was performed on MEDLINE, Cochrane Library, PubMed combining the following terms: “quality of life,” “health related quality of life,” “kidney cancer,” “bladder cancer,” “prostate cancer.”

ABSTRACT

EVIDENCE SYNTHESIS: HRQoL is a fundamental step in evaluating treatment outcome in patients with urological cancers. HRQoL is mostly measured through several questionnaires, which are generally categorized in generic questionnaires, exploring the patient’s well-being en bloc; specific questionnaires, assessing each single domain of health status; and uro-oncological specific questionnaires, mainly characterized by a modular approach. Although different questionnaires have been proposed and validated, the standard method to be adopted in urology is far from the solution and further studies should investigate the strength and weakness of the different questionnaires.

CONCLUSIONS: HRQoL questionnaires should become a standard method to evaluate medical/surgical outcomes in uro-oncology. Their implementation may significantly improve patients’ satisfaction and help physicians in the decision-making process and possibly reduce health care costs.


Key words: Quality of Life - Urinary bladder neoplasms - Prostatic neoplasms - Kidney neoplasms.

Introduction

Overall survival (OS) and cancer specific survival (CSS) are generally considered the standard parameters to evaluate the outcomes in uro-oncology. However, in recent years there is a growing interest in the assessment of Health Related Quality of Life (HRQoL) in cancer patients in order to correctly measure treatment efficacy and satisfaction. Although several HRQoL have been developed and validated, differences in the research methods, on patients’ characteristics did not allow the development and implementation of a standard HRQoL tool. The need to extensively investigate the different domains
of quality of life in cancer patients should be also balanced with the possible difficulties in filling out complex questionnaires in relation to the severe conditions of the patients in this population compilation.

Aim of this systematic review was to evaluate the most frequently adopted HRQoL questionnaires in uro-oncology.

Evidence acquisition

A MEDLINE, Cochrane Library, and National Center for Biotechnology Information (NCBI) PubMed search for relevant articles published from January 1975 until January 2016 was performed by combining the following terms: “quality of life,” “health related quality of life,” “kidney cancer,” “bladder cancer,” “prostate cancer.” Only articles published in the English language and with an available full text were selected. In addition, sources in the reference sections of the identified publications were added to the list. Each article and abstract was reviewed for its appropriateness and relevance with the topic of this review. Two reviewers independently screened all abstracts and full-text articles. Disagreement was resolved by discussion, and where no agreement was reached, a third independent part acted as an arbiter (Figure 1).

Evidence synthesis

Basic principles concerning research tools

Health related quality of life can be studied using various techniques. Qualitative, multifactorial research allows not only the ability to assess precisely the well-being of the patient but also to evaluate it qualitatively; however, this takes up relatively too much time and is labor-intensive. Another QoL evaluation method is the use of questionnaires as a tool. This last method allows the quantitative evaluation of the result and enables comparisons of various patient groups.

An important element influencing the choice of research tools in the assessment of HRQoL is the fact that the use of a given research tool should not take too long, should be adapted to the intellectual level of the respondent, should be clear and should allow the responder to provide clear answers. As an example, it is not feasible to expect pertinent answers to a hundred questions in the questionnaire since many of the responses will be inadequate. Therefore, many studies on QoL use specific instruments (disease-specific) for a given situation. The main advantage of these instruments is that most of the questions contained therein relate to the phenomena, which are highly likely to occur in a given patient and thus have a greater chance of detecting changes. Their main disadvantage is that one cannot compare the results obtained using different instruments or in various populations nor does it allow a general evaluation of the quality of life which requires separate research. Instruments to measure HRQoL in uro-oncological patients are often divided into generic and cancer specific instruments. This last group is further divided into two groups: domain-specific, i.e. the analysis of the specific, functional domains of the pa-
Patient and disease-specific, i.e. the analysis of factors originating from the disease as such.\textsuperscript{3,4}

Generic questionnaires are used to test a population over a wide range and are applied to patients with various health problems and are not restricted solely to those concerning one specific organ or system. They have the advantage of allowing comparisons to be made of the quality of life for different groups of patients. These concern four areas of research: functional, physical, mental/emotional and social. Their disadvantage is their low sensitivity with respect to changes caused by treatment within a given group of patients.\textsuperscript{5}

Questionnaires specific to a given disease, as opposed to generic instruments, are specially designed to evaluate those aspects of health that are affected by a specific disease. These instruments are usually more sensitive, that is, sensitive to small, but important, changes in health, in comparison with general instruments.\textsuperscript{6} Since they focus on selected aspects of HRQoL instruments, specific to a disease, they cannot be used to compare the effects of two different diseases on the quality of life; sometimes, these instruments are so specific that they render it impossible to compare two populations of patients with the same disease, for example there are tools specifically addressed for children and adults.\textsuperscript{7}

\textit{Quality adjusted life years}

One of the important measures of HRQoL is Quality Adjusted Life Years (QALYs). This term was introduced in 1977 by Weinstein and Stason.\textsuperscript{8} The basis for the assumptions of the researchers was the fact that for a man, the number of years lived in good health is more valuable than the same number of years lived in mediocre or poor health. QALY calculations are based on the number of years gained by medical intervention (coefficient 1) and the quality of life in the years so obtained (coefficient 2). The final score is achieved by multiplying both factors. The first variable is the number of years for which the patient’s life will be extended through the procedure; the second variable is the subjective feeling of satisfaction with life on a scale from 0 (death) to 1 (full health). QALY takes into account, in a consistent manner, the health, psycho-social and sociological status of the person tested and is obtained by asking the patient for how many years of life in full health would he exchange 10 years of life in his or her present state of health.\textsuperscript{9} Figure 2 presents the measure of QALY profit in the patients’ situation with — and without — therapeutic intervention. QALY combines morbidity and mortality into a single weighted measure. Thus, QALY gives an idea of how many extra months or years of life of a reasonable quality a person might gain as a result of a treatment. QALY scale is particularly adopted in assessing the value for money of an intervention. QALY is an important and increasingly used economic measure of the relative impact of healthcare interventions and can be measured for all diseases. QALYs were largely adopted in uro-oncological studies, in several contexts. In particular recently Heilbrun \textit{et al.} included QALY in their cost-analysis of effectiveness between immediate treatment, percutaneous biopsy and active surveillance for the diagnosis of the small solid renal mass.\textsuperscript{10} In prostate cancer scenario, QALY measurements were assessed to evaluate the clinical benefit of PSA screening and for decision making between curative treatment and active surveillance in low risk patients.\textsuperscript{11-13} Notwithstanding QALYs suffer from some limitations. They lack of sensitivity when comparing the efficacy of two competing but similar treatments and in the manage-
ment of less severe health problems. In particular chronic diseases, where quality of life is a major issue and survival less of an issue, are problematic to accommodate in the QALY context, and there is a tendency to resort to the use of disease-specific measures of quality of life. Similarly, preventive measures, where the impact on health outcomes may not occur for many years, may be difficult to quantify using QALYs because the importance attached to each of the health dimensions is highly dependent on age, life context and life responsibilities.

Further criticisms have surrounded the inadequate weight attached to emotional and mental health problems, and the lack of consideration of the impact of health problems on the quality of life of carers and other family members. 

**Generic questionnaires**

Form 36 Health Survey Questionnaire (SF-36) is one of the most commonly used generic questionnaires developed by Ware and co-author in 1992. In uro-oncology, over one hundred published studies have been carried out using the SF-36, demonstrating its abilities as a global QoL Measure. Completing SF-36 takes a patient less than 10 minutes and its utility, reproducibility and ability to demonstrate changes due to effective treatment have frequently been re-confirmed. Major limitations of SF-36 consist in a low response rate in elderly populations (more than 65 years) and a lack to assess sleep domain. In addition to other generic questionnaires, the Sickness Impact Profile (SIP) and the Nottingham Health Profile (NHP) are also worth mentioning. Recently, however, these tests have been used less frequently.

Table I presents a summary of generic questionnaires.

**Specific questionnaires**

The term HRQoL refers predominantly to individual states in the patient’s life: the functional, physical, mental or social status and the overall quality of life. Specific research tools have been developed for individual areas although some of these may cover several conditions in the patient tested.

The functional status expresses mobility and the ability to do for oneself; it is a measure of adaptation to the symptoms. Somatic/physical condition is tested within a range of the performance of basic physiological functions and the physical symptoms associated with the disease and therapeutic interactions. This area reflects the quality of symptom control. The main symptom in this area, in determining the quality of life, is pain. Mental status is defined as the degree of acceptance of the disease and adaptation to the new living conditions dictated by the disease. A measure of this condition is emotional status, that is, the quantity and quality of emotions, estimated as the presence, or absence, of negative feelings of anxiety, depression, anger or the presence of positive feelings of joy, contentment and hope. The social area includes the type and quality of contacts, the extent of social support, social functioning, functioning in roles, relationships in the family and the material-

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**Table I.** Summary of generic QoL questionnaires.

<table>
<thead>
<tr>
<th>Questionnaire</th>
<th>Number of questions</th>
<th>Domains and characteristics evaluated</th>
<th>Full name of the questionnaire</th>
<th>Validation article(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF-36, -12</td>
<td>36, -12</td>
<td>physical functioning, role-physical functioning, role-emotional functioning, vitality, mental health, social functioning, bodily pain, general health</td>
<td>The Short Form (36) Health Survey</td>
<td>Mc. Horney &lt;sup&gt;18&lt;/sup&gt; Mc. Horney &lt;sup&gt;20&lt;/sup&gt; Ware &lt;sup&gt;15&lt;/sup&gt;</td>
</tr>
<tr>
<td>SIP</td>
<td>136</td>
<td>physical, mental, social (6 subscales: somatic autonomy, mobility control, mobility range, social behaviour, emotional stability score, psychological autonomy / communication)</td>
<td>Sickness Impact Profile</td>
<td>Bergner &lt;sup&gt;19&lt;/sup&gt;</td>
</tr>
<tr>
<td>NHP</td>
<td>38</td>
<td>physical mobility, social isolation, emotional reactions, pain, sleep, energy</td>
<td>Nottingham Health Profile</td>
<td>Hunt &lt;sup&gt;17&lt;/sup&gt;</td>
</tr>
</tbody>
</table>
household situation. The overall quality of life is determined as a summary of assessments of the above areas. This assessment does not always reflect the results obtained in the areas mentioned above. Examples of tools for auditing the overall quality of life are the Functional Assessment of Cancer Therapy — General (FACT-G) the QLQ-C30 and its abbreviated version, the QLQ-C15-PAL, which is specially prepared for evaluating the quality of life in patients in palliative care. Table II presents a summary of specific QoL questionnaires.22-36

Questionnaires used in uro-oncology patients

There is a characteristic aspect of cancer-specific QoL questionnaires, which distinguishes them from all other chronic disease QoL questionnaires. We can call it the “modular approach”. The modular approach in HRQoL assessment combines the administration of a cancer-specific instrument appropriate for use in any type of cancer (the “core” questionnaire) with a specific instrument (the “module” questionnaire), which assesses, in great detail, issues of relevance to specific cancer-patient subgroups (e.g., bladder cancer or prostate cancer), not adequately covered by the core questionnaire. The use of a module increases specificity. Combined use of a core measure and module is advantageous because the module offers increased sensitivity to disease and treatment effects while the core measure enables results to be compared across the full range of cancer clinical contexts.37

Among the many “core” questionnaires used to assess HRQoL in uro-oncology patients, the QLQ-C30 and the FACT-G are predominant.4, 5, 38

EORTC QLQ-C30 was developed by experts of the Quality of Life Research Group at the European Organisation for Research and the Treatment of Cancer, EORTC.39 The EORTC QLQ-C30 consists of a questionnaire of 30 questions, grouped into 5 scales and reflecting the functioning of the patient in physical, emotional, cognitive, and social and life-role levels. The questions feature three scales of symptoms (fatigue, pain and nausea with vomiting) in a global health assessment of quality of life and a certain number of questions which fall into any of the three scales to assess the intensity of additional symptoms (shortness of breath, sleep disturbance, constipation and diarrhea), as well as the patient’s own assessment of the impact of disease on his or her financial situation. Questions about the overall quality of life and health give a score

Table II. Summary of specific QoL questionnaires.

<table>
<thead>
<tr>
<th>Questionnaire</th>
<th>Numbers of questions / scores</th>
<th>Status condition</th>
<th>Full name of the instrument</th>
<th>Validation article(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Karnofsky Index</td>
<td>Scores 0-100</td>
<td>Functional</td>
<td>Karnofsky Index</td>
<td>Karnofsky</td>
</tr>
<tr>
<td>ECOG</td>
<td>Scores 0-5</td>
<td>Functional</td>
<td>Eastern Co-operative Oncology Group; Zubroda Scale; Zubroda-ECOG-WHO Scale</td>
<td>Oken</td>
</tr>
<tr>
<td>GHO</td>
<td>28</td>
<td>Somatic</td>
<td>General Health Questionnaire</td>
<td>Goldberg</td>
</tr>
<tr>
<td>VAS</td>
<td>Visual scale</td>
<td>Somatic</td>
<td>Visual Analogue Scale</td>
<td>Aitken</td>
</tr>
<tr>
<td>McGill Pain Questionnaire</td>
<td>20</td>
<td>Somatic</td>
<td>Mc. Gill Pain Questionnaire</td>
<td>Melzack</td>
</tr>
<tr>
<td>RSCL</td>
<td>38</td>
<td>Somatic</td>
<td>Rotterdam Symptom Checklist</td>
<td>De Haes</td>
</tr>
<tr>
<td>STAS</td>
<td>34</td>
<td>Somatic</td>
<td>Support Team Assessment Schedule</td>
<td>Higginson</td>
</tr>
<tr>
<td>MFI</td>
<td>20</td>
<td>Somatic</td>
<td>Multi-dimensional Fatigue Inventory</td>
<td>Smet's</td>
</tr>
<tr>
<td>HADS</td>
<td>7</td>
<td>Mental</td>
<td>Hospital Anxiety and Depression Scale</td>
<td>Zigmund</td>
</tr>
<tr>
<td>STAI</td>
<td>40</td>
<td>Mental</td>
<td>State Trait Anxiety Index</td>
<td>Spielberg</td>
</tr>
<tr>
<td>BDI</td>
<td>21</td>
<td>Mental</td>
<td>Beck Depression Inventory questionnaire</td>
<td>Beck</td>
</tr>
<tr>
<td>MAC</td>
<td>14</td>
<td>Mental</td>
<td>Mental Adjustment to Cancer</td>
<td>Watson</td>
</tr>
<tr>
<td>QLQ-C15-PAL</td>
<td>EORTC QLQ C-30 + 15-items</td>
<td>Palliative care</td>
<td>European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire Core 15 Palliative</td>
<td>Groenvold</td>
</tr>
<tr>
<td>FACT-Pal</td>
<td>FACT-G + 19-items</td>
<td>Palliative care</td>
<td>Functional Assessment of Chronic Illness Therapy – Palliative Care</td>
<td>Cella</td>
</tr>
<tr>
<td>QLI</td>
<td>5</td>
<td>Palliative care</td>
<td>Spitzer’s Quality of Life Index</td>
<td>Spitzer</td>
</tr>
</tbody>
</table>
ranging from 1 to 7, number 1 indicating a very poor state of health and quality of life and 7 indicating “excellent”. Other questions have a four-point response range from 1 to 4 (never, sometimes, often, and very often). The higher the total score, the higher the quality of life of the patient. The EORTC group has created many specific questionnaires besides the QLQ C-30, all dedicated to specific types of cancer, for example, the QLQ PR25 for testing the quality of life of patients with prostate cancer.

Another questionnaire often used in HRQoL studies on uro-oncology patients is the FACT-G (Functional Assessment of Cancer Therapy - General). This is derived from the FACT group of questionnaires (Functional Assessment of Cancer Therapy). The FACT-G questionnaire, consists of 27 questions grouped into four main domains, or subscales, defining the quality of life as physical condition, social/family life, emotional state and functioning in daily life. Each of these questions is assessed on a five-point scale from 0 - being the lowest quality of life - to 4, the highest quality of life. The higher scores in each of the scales indicate the higher quality of life of the patient. In addition to the basic FACT-G questionnaire, supplementary questions or modules for each organ or system issues are used, such as prostate cancer and bladder cancer.

To ease the usability of the FACT-G, new methods for computer acquisition, scoring, and display of data will be available. These implementations will likely alleviate patient burden, expedite data collection and scoring, and further guide the clinician or researcher in meaningful interpretation.

Equivalent foreign language versions of the FACT-G questionnaires are currently available in more than 50 different languages (for some scales), permitting cross-cultural comparisons of populations from different backgrounds. On the other hand, the QLQ C-30 has been translated and validated into 81 languages and has been used in more than 3,000 studies worldwide. It has been supplemented by disease-specific modules for several cancers. The average time required to complete the questionnaire was approximately 11 minutes, and most patients required no assistance. In addition QLQ C-30 showed optimal validity to detect alterations induced by oncological treatments: statistically significant changes, in the expected direction, in physical and role functioning, global quality of life, fatigue, and nausea and vomiting were 13 differences between EORTC QLQ C-30 and FACT-G for measuring health-related quality of life in cancer clinical research. They have reported that psychometric evidence does not recommend one questionnaire over the other in general. However, important differences between the social domains, scale structure and tone that inform choice have been found. Firstly important differences concern the manner in which “social HRQoL” is theorized and measured in the QLQ C-30 versus FACT-G. QLQ C-30 evaluates impacts on social activities and family life while FACT-G focuses on social support and relationships. Furthermore the QLQ C-30 overall score is generated by averaging responses to just two questions (global health and quality of life), while the FACT-G consists in the summation of all 27 items. Classical test theory expects that scales included a greater number of items should be more reliable and therefore more sensitive and responsive. On the other hand, the multiplicity of issues and symptoms subsumed within each FACT-G scale increases the potential for sensitivity and responsiveness to be reduced because of differential effects among items. Lastly the QLQ-C30 and FACT-G differ in their respective ‘look and feel’. With the exclusion of its emotional scale, the QLQ-C30 limits its questions to relatively ‘objective’ aspects of functioning, whereas the FACT-G encourages respondents to reflect on their thoughts and feelings throughout.

The Expanded Prostate Cancer Index Composite (EPIC) is another example of comprehensive instrument for evaluation patient function and bother after different type of prostate cancer treatment. The original UCLA-PCI question was augmented with specific items addressing irritative and obstructive voiding symptoms, hematuria and symptoms intimately related to androgen deprivation therapy. The
shortened version of this tool was developed – EPIC-26 and EPIC for Clinical Practice with 16 items. In the recently performer systemic comparison of instruments assessing QLQ in prostate cancer patients, author conclude that EPIC had the best rate according to EMPRO standard criteria.

In order to obtain the highest possible level of precision of QoL analysis in patients with specific uro-oncological diseases, numerous authors and groups of researchers have developed dedicated instruments. Many of these tools have not been validated and have been used only once. Table III presents some selected, validated and relatively frequently used research tools for cancer patients with ailments of kidney, bladder and prostate.

In a recent systematic review of the most used questionnaires in men with prostate cancer carried out recently, the author chose several, from among 20 different questionnaires, for a specific purpose. The SF-12 questionnaires, as a generic instrument, should be recommended for screening populations in line with positive ratings for criterion validity, construct validity, reproducibility, and interpretability. The CARES-SF and the FACT-G questionnaires can be recommended as cancer-specific HRQoL instruments, as they both received positive ratings for content validity, internal consistency, construct validity, and reproducibility. Additionally, the CARES-SF is more extensive and also has a marital and sexual domain. The UCLA-PCI and the FACT-P are recommended for the specific evaluation of prostate cancer patients. When detailed information is needed regarding bowel, sexual, and urinary function, the UCLA-PCI may provide more insight.

The systemic review of the literature done by MacLennan, showed that there are no dedicated methods for the evaluation of the quality of life in patients with cancer of the kidneys and hence there are no clear guidelines presenting appropriate research tools. Only Liu and co-authors mentioned structured review studies on HRQoL in various types of cancer, specifically cancer of the kidney, claiming that continued development and a refinement of instruments, especially for kidney cancer, are urgently needed. In studies evaluating various surgical techniques and various scopes of kidney operations, questionnaires SF-36 and EORTC QLQ C-30 were used as generic instruments while for the evaluation of therapy, in the generalized stadium of cancer disease, questionnaires EORTC QLQ C-30 and FACT-G were used. As a disease-specific questionnaire, Fksi and RCC-SI were most often used.

Measuring HRQoL in bladder cancer has its unique difficulties. All of the currently available bladder cancer-specific instruments contain items evaluating the urinary domain, but the items mostly address general, urinary problems. Different cancers also come with different sets of potential side effects and impacts on body image. Hence it is difficult to develop a universal, disease-specific instrument, which can be applied to all patients with bladder cancer. Systematic reviews and meta-analysis of the literature on health-related quality of life after radical cystectomy showed that most often, SF-36 and SIP were used as generic instruments for the evaluation of QoL while for evaluation relating to the QoL in cancer, FACT-G, EORTC QLQ C-30 were most often used. The most frequently used instruments specific for bladder cancer were BCI, FACT-BL and EORTC QLQ BLM-30. Attention should be drawn to the fact that there is a very limited selection of highly specialized instruments dedicated to selected situations in bladder cancer. The recently developed instrument — IONB-PRO — dedicated to patients with bladder cancer who underwent cystectomy with the ileal orthotopic neo-bladder is worthy of note. The authors of one of the recently performed systemic reviews concluded that “although progress has been made in evaluating HRQoL in post-cystectomy bladder cancer patients, there is still a need for well-designed, prospective studies”.

To assess levels of self-esteem, which are indirectly associated with the assessment of the quality of life, the Self-Esteem questionnaire (SES) — developed by Morison Rosen-
TABLE III.—Summary of HRQOL questionnaires for uro-oncology patients.

<table>
<thead>
<tr>
<th>Questionnaire</th>
<th>Numbers of questions</th>
<th>Subscales</th>
</tr>
</thead>
<tbody>
<tr>
<td>FACT-G</td>
<td>27</td>
<td>Physical, social / family, emotional functional</td>
</tr>
<tr>
<td>EORTC QLQ C-30</td>
<td>30</td>
<td>Physical, role, cognitive, emotional, social; three symptom scales (fatigue, pain and nausea / vomiting); a global health and quality of life scale</td>
</tr>
<tr>
<td>EORTC-BLM30</td>
<td>30</td>
<td>Urinary and bowel symptoms, sexual function, urostomy issues, catheter problems, and body image</td>
</tr>
<tr>
<td>EORTC-BLS24</td>
<td>24</td>
<td>Urinary and bowel symptoms, sexual function, urostomy issues, catheter problems, and body image</td>
</tr>
<tr>
<td>FACT-BI</td>
<td>27+13</td>
<td>Urinary, bowel and sexual symptoms</td>
</tr>
<tr>
<td>FACT-BI-Cys</td>
<td>27+17</td>
<td>Urinary, bowel and sexual symptoms</td>
</tr>
<tr>
<td>(FACT-VCI)</td>
<td></td>
<td>And sexual symptoms</td>
</tr>
<tr>
<td>IONB-PRO</td>
<td>43</td>
<td>Symptoms, neo-bladder self-management emotional, activities of daily living, social and sexual issues, fear, fatigue</td>
</tr>
<tr>
<td>BCI</td>
<td>36</td>
<td>Bowel, sexual and urinary function, bother</td>
</tr>
<tr>
<td>FACT-P</td>
<td>27+12</td>
<td>Bowel function and bother, sexual function and bother, urinary incontinence and irritative – obstructive, hormonal function and bother</td>
</tr>
<tr>
<td>EORTC QLQ PR25</td>
<td>30+25</td>
<td>Bowel symptom, sexual activity and functioning, urinary symptom and incontinence, bowel and sexual symptoms</td>
</tr>
<tr>
<td>PORPUS</td>
<td>10</td>
<td>The side-effects of hormonal treatment (androgen deprivation)</td>
</tr>
<tr>
<td>EPIC</td>
<td>50</td>
<td>Sexual, urinary, bowel and quality of life</td>
</tr>
<tr>
<td>PC-QoL</td>
<td>52</td>
<td>Urinary, bowel, sexual, function as well as related role of activity limitation bother, anxiety over disease course / effectiveness of treatment</td>
</tr>
<tr>
<td>PCSI</td>
<td>29</td>
<td>Urinary, bowel, sexual, function as well as related symptom distress, cancer worry</td>
</tr>
<tr>
<td>UCLA-PCI</td>
<td>20</td>
<td>Bowel function and bother, sexual function and bother, urinary function and bother</td>
</tr>
<tr>
<td>FKI-10,-15</td>
<td>10, -15</td>
<td>Pain, fatigue, pulmonary symptoms, bowel/bladder symptoms, nutritional health, psychological functioning, treatment side effects</td>
</tr>
<tr>
<td>RCC-SI</td>
<td>30</td>
<td>Pain, fatigue, pulmonary symptoms, bowel / bladder symptoms, nutritional health, psychological functioning, treatment side effects</td>
</tr>
</tbody>
</table>

...berg in 1965 — is applied. The questionnaire is also called the Rosenberg Self-Assessment Scale. The scale consists of 10 statements regarding conscious attitudes to the inner self, both positive and negative, regarding the emotions associated with cognitive opinions about oneself. The results shown on the SES scale can indirectly supplement a diagnosis of depression, a narcissistic personality, certain qualities of temperament, locus of control, optimism, social skills or shyness.

The surgical treatment of men, during which damage to the external genitalia takes place, can significantly alter the quality of life. Among others, perception of the masculinity of a given patient has a significant influence on the scale of this deterioration. Men, recognizing traditional patterns and views on masculinity would draw a lot of satisfaction from their sexual sphere of life, which significantly affects their mental well-being. A 94-question, CMNI questionnaire (the Masculine Norms Conformity Inventory) evaluating a patient’s identification with the standards of masculin-
ity applicable, was developed by Mahalik and co-authors in 2003.\textsuperscript{81} In 2008, Burns and co-authors developed a shortened, 22-question version of CMNI reflecting all 11 domains of the original questionnaire.\textsuperscript{82}

### Conclusions

Management of cancer patients has extensively improved in the decades, particularly treatment efficacy and improved overall survival must be associated to a corresponding improvement on patients’ quality of life. So far the evaluation of quality of life is mandatory in cancer patients and the need of a standardized method is a priority in uro-oncology. Generic/specific and uro-oncological questionnaires have been proposed and validated with controversial results. Unfortunately most of them are not routinely used in clinical practice and we are far to define the standard questionnaire to be used in different settings and populations. Well-designed comparative studies and consensus conferences are expected to regulate
the use of these instruments and to clarify their use in different area.

Furthermore, taking into account the implications of the health related quality of life issues on the current and future managements of cancer patients, we support that validated health-related quality of life questionnaires should be used in clinical trials as well as in clinical practice to better evaluate and investigate the safety and efficacy of new treatment modalities. Their implementation may also significantly improve patients’ satisfaction and help physicians in the decision-making process and possibly reduce health care costs through the improvement of patients’ mental and physical distress.

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