Analysis on The Quality of Life of Gynecological Cancer Patients in Dr. Sardjito Hospital Yogyakarta using EORTC-QLQ C30 Index

Kualitas Hidup Pasien-pasien Kanker Ginekologi yang Dinilai dengan Indeks QoL-EORTC di Rumah Sakit Dr. Sardjito, Yogyakarta

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Abstract

Objective: To evaluate quality of life (QoL) of the patients with gynecologic cancers in Dr. Sardjito Hospital - Yogyakarta using the European Organization for the Research and Treatment of Cancer-Quality of Life Questionnaire C30 (EORTC QLQ-c30).

Method: A hundred women with gynecologic cancers were included in a cross-sectional study of quality of life. They aged between 28 and 72 years and were receiving their treatment at the gynecologic cancer department, Dr. Sardjito Hospital from January to March 2009. Interview was done by doctors to avoid bias at one week after the last treatment. Indonesian language version of EORTC QLQ-c30 was used with permission of EORTC organization in order to evaluate the global health status, five functional scales, and symptom scales items. Characteristics and QoL datas were described in median, maximum and minimum after they were linearly transferred to 1-100%. Additional internal consistency test was done using Cronbach’s α coefficient.

Result: The mean age of the participants was 49.02 years (SD 9.57). Most of them suffered from advanced stages of cervical cancer on their first visits (67%). The highest scores were obtained from the cognitive function domain (100%) followed by the emotional function (83%). Whilst, the lowest score appeared in the role functioning and the global QoL (both were scored 66.67%). The highest intensities of symptoms complained by the patients were sleep disturbance and loss of appetite (both were 33.33%). Finally, almost all patients complained about their financial problems (83.34%). Additional analysis of the acceptable level showed that all aspects were reliable under any circumstances except the social functioning aspect.

Conclusion: The EORTC QLQ-c30 questionnaires showed to be useful in assessing QoL patients in Dr. Sardjito Hospital. It can address the patient problems in details to give physician another best approach of treating gynecologic cancer patients, not only the number of overall survival which is usually unbearable to be corrected on advanced stages patients.

Keywords: gynecologic cancer, Quality of Life, EORTC QLQ-c30

INTRODUCTION

Despite of the advanced development of drugs and treatments of cancers including gynecologic cancer, the progress on survival rate in 20 years is not as good as expected. Data from UK cancer research showed that even developed screening program of cervical cancer was not reflected in survival rate. Until recently, the aim of cancer therapy is mainly to prolong life. Parameters including disease-free survival, progression-free survival, overall survival, tumor response and toxicity have been used for the endpoints of many treatment evaluation of various gynecologic cancers. Quality of life is actually one important subject of cancer management involving multidimensional concepts which take into account the
individual’s self perception and experience compared to the expectations.\textsuperscript{5}

In a country like Indonesia, almost all gynecologic cancer patients fall into come in the advanced stages.\textsuperscript{6} Being in the advanced stages is arbitrarily considered as bad prognosis. High population of women, which is 50% of overall Indonesian population, large and isolated area, scarcity of resources, and complex financial problems are the obstacles responsible for lack of good screening program and proper cancer management.\textsuperscript{7} Addressing the problem, assessment of QoL in gynecologic patients not only aids to the medical-decision making as in clinical trials but also important to have intrinsic parts of treating patients in bad prognosis condition. The importance of treatment is therefore shifting from the need of prolonging survival to the evaluation of four intrinsic factors; physical emotional, social, and cognitive.\textsuperscript{8,9}

In 1986 EORTC study group of quality of life has developed instruments to assess quality of life. The EORTC QLQ-c30 is a further refined tool of EORTC QLQ-c36. It consists of 30 questions of psychometric instruments validated in several studies of various types of cancers.\textsuperscript{10-14} A study assessing the comparison between the EORTC QLQ-c30 and other tools showed only little support that specific cancer evaluation instruments were better than the generic ones like EORTC QLQ-c30 and the Functional Assessment of Cancer Therapy General (FACT-G).\textsuperscript{5} The EORTC QLQ-c30 combines five functional scales (physical, role, cognitive, emotional, and social), three symptom scales (fatigue, pain, and nausea and vomiting), a global health status/QoL scale, and a number of single items assessing additional symptoms commonly reported by cancer patients (dyspnea, loss of appetite, insomnia, constipation and diarrhoea), and perceives financial impact of the disease.\textsuperscript{14}

\textbf{METHODS}

The study was a prospective cross sectional study carried out on 100 cancer patients from January-April 2009 at the Obstetrics and Gynecology Department of Dr. Sardjito Hospital, Yogyakarta. A written consent was obtained from all participants before interview was taken place during their waiting time in outpatient clinic or ward. Data of demographic, types of cancer, and other relevant information were gathered from the medical records. The Indonesian language version of EORTC QLQ-c30 was used by EORTC permission and filled out by doctors during the interview to avoid bias one week after the last treatment. EORTC QLQ-c30 questionnaires include five functional scales, three symptoms scales, a global QoL/health status scales, and six single items. All the questions, except health status scale, use a 4-point scale ranging from 1 of being "not at all" to 4 of being "very much". A global QoL or health status score ranges from 1 to 7. The scores then were linearly transformed to 0 - 100 before being analyzed according to the manual.\textsuperscript{15}

Higher scores of the health status scale and the functional scales represent a better health status and a higher level of functioning, whilst higher scores of the symptom scales indicate higher intensity of symp-

toms.\textsuperscript{15} The descriptive statistical analysis was used to describe demographic, clinical characteristics of participants and the scores of EORTC QLQ-c30. The results were in median, minimum, and maximum. Additionally, the internal consistency of each scale within the questionnaire was estimated by Cronbach’s coefficient.\textsuperscript{16} A value of 0.70 or greater was considered acceptable for group comparison.

\textbf{RESULTS}

A hundred gynecologic patients who have received their treatments completely or partially in the Gynecology Oncology division of OBGYN Department of Dr. Sardjito Hospital Yogyakarta in January until March 2009 were included in the study. Interview during post treatment was done to collect the EORTC QLQ-c30 score. Patients aged between 28 and 78 years old (mean 49.02 ± 9.57 years old).

\begin{table}[h]
\centering
\begin{tabular}{|c|c|}
\hline
\textbf{Characteristics} & \textbf{Frequency} \\
\hline
\textbf{Age} & Mean ± SD \\
\hline
& 49.02 ± 9.57 \\
\hline
\textbf{Parity} & Mean ± SD \\
\hline
& 1.53 ± 1.70 \\
\hline
& Maximum: 7 \\
\hline
& Minimum: 0 \\
\hline
\textbf{Types of gynecologic cancer} & \\
\hline
Cervical cancer & 67% \\
\hline
Ovarian cancer & 32% \\
\hline
Endometrial cancer & 3% \\
\hline
Others (vulvar or vaginal cancer, GTN) & 5% \\
\hline
\textbf{Stage on first visit} & \\
\hline
Advanced stages & 67% \\
\hline
Early stages & 28% \\
\hline
\textbf{Treatment given} & \\
\hline
Operation only & 9% \\
\hline
Chemotherapy only & 9% \\
\hline
Radiation only & 0% \\
\hline
Operation with chemotherapy & 24% \\
\hline
Chemotherapy and radiation & 42% \\
\hline
Operation with Chemoradiotherapy & 16% \\
\hline
\end{tabular}
\end{table}

Most of them suffered from cervical cancer (67%), depicted in Table 1. On their first visit they were mostly at advanced stages of their diseases (67%). They have been given treatment of operation, chemotherapy, radiotherapy, or combination of the modalities. No patients were treated only with radiotherapy. It was due to the long waiting list of radiotherapy in Dr. Sardjito Hospital. A large numbers of patients underwent chemoradiation therapy and radiation (42%). All of the patients on chemoradiation therapy were patients with cervical cancer. Quality of life scores which had been linearly transformed to 0 to 100% are presented in Table 2.
Table 2. Results of linearly transformed EORTC QLQ-c30 scoring.

<table>
<thead>
<tr>
<th></th>
<th>Median</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Functional scale</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Global Quality of life</td>
<td>66.67</td>
<td>33.33</td>
<td>100.00</td>
</tr>
<tr>
<td>Physical functioning (PF)</td>
<td>73.33</td>
<td>13.33</td>
<td>100.00</td>
</tr>
<tr>
<td>Role functioning (RF)</td>
<td>66.67</td>
<td>33.33</td>
<td>100.00</td>
</tr>
<tr>
<td>Emotional functioning (EF)</td>
<td>83.33</td>
<td>0.00</td>
<td>83.33</td>
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<tr>
<td>Cognitive functioning (CF)</td>
<td>100.00</td>
<td>67.00</td>
<td>100.00</td>
</tr>
<tr>
<td>Social functioning (SF)</td>
<td>75.00</td>
<td>0.00</td>
<td>100.00</td>
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<tr>
<td><strong>Symptom scale</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Fatigue (FA)</td>
<td>22.22</td>
<td>11.11</td>
<td>66.67</td>
</tr>
<tr>
<td>Nausea and vomiting (NV)</td>
<td>0.00</td>
<td>0.00</td>
<td>100.00</td>
</tr>
<tr>
<td>Pain (PA)</td>
<td>16.67</td>
<td>0.00</td>
<td>100.00</td>
</tr>
<tr>
<td>Dyspnea (DY)</td>
<td>0.00</td>
<td>0.00</td>
<td>66.67</td>
</tr>
<tr>
<td>Sleep disturbance (SL)</td>
<td>33.33</td>
<td>0.00</td>
<td>66.67</td>
</tr>
<tr>
<td>Appetite loss (AP)</td>
<td>33.33</td>
<td>0.00</td>
<td>33.33</td>
</tr>
<tr>
<td>Constipation (CO)</td>
<td>0.00</td>
<td>0.00</td>
<td>33.33</td>
</tr>
<tr>
<td>Diarrhea (DI)</td>
<td>0.00</td>
<td>0.00</td>
<td>33.33</td>
</tr>
<tr>
<td>Financial problem (FI)</td>
<td>83.34</td>
<td>0.00</td>
<td>100.00</td>
</tr>
</tbody>
</table>

The scores were described into median, minimum, and maximum. The highest median scores were observed appearing on the cognitive function domain (100%), followed by the emotional function (83%). The lowest scores were found in the role functioning and the global quality of life 66.67% and 66.67% respectively.

The highest scores in the symptom scales appeared on the financial problem domain (83.34%). The next ones were sleep disturbances and loss of appetite 33.33%, respectively. Lowest scores appeared on constipation and diarrhea domain. Even though nausea and vomiting along with dyspnea were also low but the maximum scales were perfect 100%.

The data of reliability test results were depicted in Table 3. It showed that except for social functioning, all scorings with multiple questions were above the acceptable level (Cronbach’s α coefficients of more than 0.7).

DISCUSSION

The main goal of this simple study was to evaluate QoL of patients with gynecologic cancers in the Gynecology Oncology Department of Dr. Sardjito Hospital. The results revealed that cognitive functioning scored the highest, having a median of 100%, compared to the whole domain of EORTC QLQ-c30 which includes global quality of life, physical, role, emotional, and social functioning. The exact questions used in the EORTC QLQ-c30 questionnaire for the specific cognitive domain were whether you had difficulties in concentration (such as reading newspapers or watching television) or whether you have problem remembering things. Most of the patients have no significant problems. On the other hand, most of patients thought that they were having problems to do their daily activities and their hobbies. Ergo, the lowest score appeared on the role functioning domain. The global quality life in the study was 64.00 ± 15.62, almost the comparable to the result of reliability test of the same assessment in Thailand, 2005.17

Table 3. Results of EORTC QLQ-c30 scoring and internal validation (Cronbach’s α coefficient)

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean (SD)</th>
<th>Cronbach’s α (n = 100)</th>
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<tbody>
<tr>
<td><strong>Functional scale</strong></td>
<td></td>
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</tr>
<tr>
<td>Global Quality of life</td>
<td>29.30 64.00 ± 15.62</td>
<td>0.99</td>
</tr>
<tr>
<td>Physical functioning (PF)</td>
<td>1 - 5 74.27 ± 19.37</td>
<td>0.91</td>
</tr>
<tr>
<td>Role functioning (RF)</td>
<td>6.7 81.50 ± 19.08</td>
<td>0.98</td>
</tr>
<tr>
<td>Emotional functioning (EF)</td>
<td>21 - 24 77.25 ± 18.23</td>
<td>0.94</td>
</tr>
<tr>
<td>Cognitive functioning (CF)</td>
<td>20.25 98.68 ± 6.5</td>
<td>1.00</td>
</tr>
<tr>
<td>Social functioning (SF)</td>
<td>26.27 69.65 ± 33.74</td>
<td>0.65</td>
</tr>
<tr>
<td><strong>Symptom scale</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fatigue (FA)</td>
<td>10, 12, 18 32.78 ± 22.02</td>
<td>0.87</td>
</tr>
<tr>
<td>Nausea and vomiting (NV)</td>
<td>14, 15 22.67 ± 32.95</td>
<td>0.84</td>
</tr>
<tr>
<td>Pain (PA)</td>
<td>9, 19 34.33 ± 31.00</td>
<td>0.69</td>
</tr>
<tr>
<td>Dyspnea (DY)</td>
<td>8 2.67 ± 13.13</td>
<td></td>
</tr>
<tr>
<td>Sleep disturbance (SL)</td>
<td>11 42.00 ± 16.15</td>
<td></td>
</tr>
<tr>
<td>Appetite loss (AP)</td>
<td>13 17.00 ± 16.75</td>
<td></td>
</tr>
<tr>
<td>Constipation (CO)</td>
<td>16 15.67 ± 16.72</td>
<td></td>
</tr>
<tr>
<td>Diarrhea (DI)</td>
<td>17 1.33 ± 6.56</td>
<td></td>
</tr>
<tr>
<td>Financial problem (FI)</td>
<td>28 72.00 ± 35.99</td>
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</tr>
</tbody>
</table>
The symptom scales revealed that financial problem was the main complain among patients. Cancers are chronic diseases which inevitably cost more in the screening and treatment. No nationally formal social security in Indonesia makes the health insurance is obtained by choice but not an obligation.

There are two QoL measurements which contain financial impact questions, EORTC QLQ-c30 and World Health Organization QoL (WHOQOL), BREF. Both are presented in Indonesian languages. EORTC QLQ-c30 has been tested and validated within Europe, Asia, and cross-cultural countries. Our study just showed that it also could be used in the gynecologic cancer patients at Dr. Sardjito Hospital. In assessment of QoL, several points are pertinent yet caveat to address. It is necessary to use validated measure of QoL. Some tools such as EORTC QLQ-c30, WHOQOL BREF, Short-form 36 (SF-36), and Functional Assessment of Cancer Therapy: General (FACT-G) have been translated to many languages.

Luckett reviewed the use of EORTC QLQ-c30 compare to FACT-G and his conclusion was: the main concern of the study would be best determined using SF-36 compared to FACT-G and his conclusion was: the main concern of the study would be best determined using SF-36 and Functional Assessment of Cancer Therapy: General (FACT-G) have been translated to many languages.

CONCLUSION

The EORTC QLQ-c30 can be used in the assessment of quality of life of the gynecologic cancer patients at Dr. Sardjito Hospital. This can functioned as an assessment with different approach to gynecologic cancer patients, in Indonesia particularly because they usually come with poor overall survival chance, due to advanced stages. The questionnaire have been validated for a lots of countries and are used to accompany the clinical trials, prognostic trials, or palliative researches. By using the questionnaires, not only the importance of overall five years survival can be obtained, but also a new strategy to improve the quality of life can be developed.

REFERENCES

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20. WHO. The World Health Organization Quality of Life (WHOQOL)-BREF (Indonesian language). 2004