

# The quality of life of cervical cancer patients

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## ABSTRACT

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A cross-sectional study was conducted to compare quality of life (QoL) between cervical cancer patients and general healthy women. All new cases of cervical cancer patients in Gynecologic oncology clinic and healthy women in check up clinic were interviewed by well trained investigators for quality of life questionnaires of EORTC-C30 in National Cancer Institute.

From October 2008 to May 2009, one hundred cervical cancer patients and one hundred healthy women were enrolled in the study. Their mean age and range were 52 (30-75), and 45(27-64) years, respectively. QoL of EORTC-C30 of cervical cancer patients were worse than healthy women in functioning scales, symptom scales, some single item scales( dyspnea, insomnia, appetite loss, constipation and financial problem) and QoL in site specific function in cervical cancer questionnaire EORTC-QLQ-CX24 represented cervical cancer highly affected to sexual function.

QoL of newly diagnosed cervical cancer patients were significantly worse than the general healthy women because cervical cancer highly affected to QoL of patients. Therefore, management of these patients should be aware in their QoL.

**Keywords** Quality of life Cervical cancer

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## คุณภาพชีวิตของผู้ป่วยมะเร็งป่ากมดลูก

### บทคัดย่อ

สุขุมมาลย์ สว่างวารี, เทวนทร์ โภสิยตระกูล. คุณภาพชีวิตของผู้ป่วยมะเร็งป่ากมดลูก. ว.สาธารณสุขและการพัฒนา, 2553; 8(1) : 45-57.

การศึกษาแบบภาคตัดขวางนี้มีวัตถุประสงค์เพื่อเปรียบเทียบคุณภาพชีวิตระหว่างผู้ป่วยมะเร็งป่ากมดลูกและสตรีทั่วไป ผู้ป่วยมะเร็งป่ากมดลูกรายใหม่ของคลินิกมะเร็งนรีเวช และสตรีที่มารับการตรวจที่คลินิกตรวจสุขภาพของสถาบันมะเร็งแห่งชาติได้รับการสัมภาษณ์จากคณานักวิจัยโดยใช้แบบสอบถามคุณภาพชีวิตของ EORTC-C30

ผลการศึกษา ผู้ป่วยมะเร็งป่ากมดลูก และสตรีทั่วไปกลุ่มละ 100 ราย เข้าร่วมงานวิจัย ระหว่างเดือนตุลาคม พ.ศ. 2551 ถึงเดือนพฤษภาคม พ.ศ. 2552 อายุเฉลี่ยและช่วงอายุของ ทั้งสองกลุ่มประมาณ 52 (30-75), 45 (27-64) ปี ตามลำดับ ข้อมูลจากแบบสอบถามคุณภาพชีวิตของผู้ป่วยมะเร็งป่ากมดลูก มีคะแนนของคุณภาพชีวิตด้อยกว่าสตรีทั่วไป ในเรื่องของ functioning scale symptom scale และ single item scale ได้แก่ อาการหอบ เหนื่อย นอนไม่หลับ เมื่ออาหารท้องผูก และปัญหาการเงิน และจากแบบสอบถามที่เฉพาะของผู้ป่วยมะเร็งป่ากมดลูก (EORTC QLQ-CX24) ก็พบว่ามะเร็งป่ากมดลูกมีผลกระทบต่อพฤติกรรมทางเพศอย่างมาก

คุณภาพชีวิตของผู้ป่วยมะเร็งป่ากมดลูกแย่กว่าสตรีทั่วไปอย่างมีนัยสำคัญ ดังนั้น โภคภัณฑ์มะเร็งป่ากมดลูกส่งผลสำคัญต่อคุณภาพชีวิตของผู้ป่วยโดยตรง การดูแลผู้ป่วยจึงต้อง ให้ความสำคัญถึงคุณภาพชีวิตที่ดีของผู้ป่วยด้วย คำสำคัญ คุณภาพชีวิต มะเร็งป่ากมดลูก

## INTRODUCTION

Cervical cancer is most common cancer in Thai females and half of patients died.<sup>1</sup> Most of cervical cancer patients do not take yearly screening and when they have abnormal symptoms such as postcoital bleeding or abnormal vaginal discharge, they decided to visit physician. Cervical cancer patients have experience of abnormal symptoms to effect lifestyle such as emotional distress, anxiety, physical impairment, decreased sexual activity and in family relationship.<sup>2-4</sup> Previous studies found, women have decreased quality of life since receiving abnormal cervical screening result.<sup>5</sup>

Especially cervical cancer is part of pelvic organ that affect sexual function and behavior. Previous studies in cancer patients included small amount of cervical cancer cases<sup>3,4,6,7</sup> and evaluated physical data, not included disease specific QoL and sexual health.<sup>3,7</sup> Chan et al<sup>3</sup> conducted a study on EORTC QLQ-C30 in fifty eight cervical cancer patients. The study found that cancer strongly affected to quality of life but no study on site specific quality of life was conducted. Frumovitz et al<sup>4</sup> conducted a study among cervical cancer patients. The study found cervical cancer patients had worse sexual functioning. Wenzel et al<sup>6</sup> conducted a study using a cross-sectional descriptive design, 51 cervical cancer and 50 controls. The study found cervical cancer patients had less sexual functioning than control group in statistically significant. Awadalla<sup>7</sup> et al conducted a study on quality of life in 46 cervical cancer patients. The study found physical function in cancer group was poorer than general population.

Quality of life is multidimensional and has been defined as a state of physical, mental and

social well being. It comprises activities of daily living, symptom related diseases, cognitive, emotional and social dimension including interpersonal relationships.<sup>3</sup> In patient's health-related quality of life (HRQoL), although no formal definition, there is broad agreement assessed both generic and specific measures. Generic scales are measured person's health and person's conditions. Specific scales are measured items that likely to be affected by the disease concerned or its treatment particularly cancer. Most HRQoL questionnaire were designed for self-administration.<sup>8</sup> Some previous study, that investigations to compared HRQoL between cancer patients and general population, are small subject<sup>9,10</sup> and unequal subjects between study group.<sup>11,12</sup> Chan and colleagues<sup>9</sup> conducted a study among seventy four gynecologic cancer patients. The study found that incidence of depression was twice than healthy population. Lutgendorf et al<sup>10</sup> evaluated ninety-eight gynecologic cancer patients. The result of study found sleep disturbance, lack of energy and sexual problem were common in these patients. Boini et al<sup>11</sup> assessed in longitudinal study of impact of cancer in quality of life. The result showed a new cancer patient had many effect on physical functioning, role-physical and general health dimension.

The objective of this cross-sectional descriptive study was to compare the QoL between the newly diagnosis cervical cancer patients and healthy women. The result of this study was expected to provide important information for assisting in developing supportive care interventions and counseling method for cervical cancer patients with the goal of preventing or reducing long-term psychosocial problem.

## METHODOLOGY

All new cases of cervical cancer patients in Gynecologic oncology clinic from October 2008-May 2009 and hundred healthy women who took the yearly check up in the Check up Clinic of National Cancer Institute (NCI) Thailand were enrolled.

The study was approved by National Cancer Institute ethics committee.

All women in this study were informed about the right to abstain from participation in the study. If they wanted to participate they would sign consent form. Newly diagnosed cervical cancer patients answered the questions at first visit before treatment. Women filled the questionnaire by themselves. In the case of patients did not understand the questions in questionnaire, well trained interviewers interviewed them. The healthy women enrolled in this study received information of the study. One hundred healthy women participated to the study and they signed consent forms.

The European Organization for Research and Treatment of Cancer (EORTC) quality of life questionnaire (QLQ) is a standardized self-administered questionnaire measuring aspects of QoL relevant to cancer patients. It has been developed for use in worldwide clinical trials tested by The EORTC Study Group on QoL<sup>13-15</sup> and many use in cervical cancer trial.

The Thai version of the EORTC QLQ-C30 was reliable which have Cronbach's alpha coefficient for multi-item scales range from 0.64 to 0.89.<sup>16,17</sup> This questionnaire consisted of 30 items which composed of multi-item scales and single item and reflected the multidimensionality of the QoL construct. It comprised five functional scales (physical, role, cognitive, emotional, and

social), three symptom scales (fatigue, pain, and nausea and vomiting), global health and quality of life scale, six single items assess additional symptoms commonly reported by cancer patients (dyspnea, appetite loss, sleep disturbance, constipation, and diarrheas) and also the perceived financial impact of the disease and treatment.

The site-specific questionnaire of cervical cancer using the EORTC Cervical Cancer Module (QLQ-CX24) was designed to assess the impact of common cervical cancer treatment modalities upon women's well being.<sup>18,19</sup> This questionnaire was additional part of EORTC QLQ which was specific in cervical cancer. This scale included 24 items consisting of three multi-item scales (symptom experience, body image, and sexual and/or vaginal functioning) and six single item scales (lymphedema, peripheral neuropathy, menopausal symptom, sexual worry, sexual activity and sexual enjoyment). We received the permission from the EORTC QoL group to use in this study.

## Statistical Analysis

Women characteristics data were analyzed by descriptive statistics such as frequencies, means, standard deviations. Difference in frequency distributions for medical and general variables were analyzed by mean of Chi-square test and t-test.

The scoring of this questionnaire was performed according to the scoring manual.<sup>20</sup> All scores were transformed to a 0-100 scale. For the scales measured function, a good function was indicated by a high score. For symptom scales and single item measuring symptoms, more severe symptoms indicated by a higher score.

## RESULTS

From October 2008 to May 2009, this study included one hundred cervical cancer patients and one hundred healthy women. Their mean age and range were 52 (30-75), and 45(27-64) years, respectively.

General data of both groups were presented in Table 1. The mean age of cervical cancer patients group, was 52.43 years which was older than healthy group. The majority of cervical cancer patients were employee (36%). In healthy

women, most of them worked in government organizations. Most of patient group and healthy group were married. Most of cervical cancer patients had less than high school level but most of the healthy women had college degree or higher. The parity of healthy women was less than cervical cancer patients. The majority of both groups had no history of cancer in families. Underlying disease between both group were comparable.

**Table 1** General characteristics of cervical cancer patients and general healthy women

Variables	Healthy women	Cervical cancer patients	p-value of
			Chi-square test
<b>Age (years) mean (SD)</b>	45.11 (8.26)	52.43 (11.48)	< 0.001 <sup>a</sup>
<b>Occupation</b>	%	%	< 0.001
Government	49	5	
Employee	14	36	
Housewife	13	29	
Farmer	2	13	
Sale	12	13	
Other	10	4	
<b>Marital status</b>	%	%	< 0.001
Single	25	2	
Married	69	65	
Divorce	6	32	
Unknown	0	1	

**Table 1** General characteristics of cervical cancer patients and general healthy women (Cont.)

Variables	Healthy women	Cervical cancer patients	p-value of Chi-square test
	%	%	
<b>Education</b>			< 0.001
No education	0	21	
Less than High school	9	59	
High school	7	13	
Post high school training	6	3	
College degree and higher	66	3	
Other	11	0	
No data	1	1	
<b>Parity</b>	%	%	<0.001
0-2	46	49	
3-5	12	37	
> 5	0	14	
No data	42	0	
<b>Underlying diseases</b>	%	%	0.216
No	71	65	
Yes	26	35	
No data	3	0	
<b>History of Cancer in family</b>	%	%	0.008
No	63	81	
Yes	35	19	
No data	2	0	

<sup>a</sup> The comparison of data was used by t-test.

Table 2 shows most of the cervical cancer women were in early stage which were 21% and 42% for stage I and stage II, respectively. The cell types of malignancy were squamous cell carcinoma (69%), adenocarcinoma (17%), adenosqu-

amous carcinoma (6%) and other types such as neuroendocrine carcinoma (8%). The plans of treatment were radiotherapy (81%) and surgery (19%).

**Table 2** Percentages of the cervical cancer patients by cancer characteristics.

Cancer characteristics	Percent
<b>Stage</b>	
I-II	63
III - IV	37
<b>Cell type</b>	
Squamous cell carcinoma	69
Adenocarcinoma	17
Adenosquamous cell CA	6
Other	8
<b>Treatment planning</b>	
Surgery	19
Radiotherapy	81

Quality of life of cervical cancer patients in functioning scales comprising physical functioning, role functioning, emotional functioning, cognitive functioning, social functioning and global health/QoL were statistically significant poorer than healthy group except cognitive functioning. The mean score of global health of cervical cancer patients was 49.01, which was less than healthy women about 18.02 points. The symptom scales comprising fatigue, nausea and emesis and pain were significantly higher than healthy women. The

single item scales comprised dyspnea, insomnia, appetite loss, constipation and financial difficulties. The single item scale of the patients were higher than healthy group except diarrhea (Table 3. Table 4 presents cancer specific quality of life by EORTC QLQ-CX24 score of cervical cancer group. Symptom experience, body image, lymphedema, peripheral neuropathy, menopausal symptoms and sexual worry of the patients were worse than healthy group. The mean of scale symptom experience in cervical cancer group was 22.64 which was than

the higher healthy group. Sexual functions consisted of sexual/vaginal functioning, sexual activity and sexual enjoyment. The scores of sexual funstions of the patients were less than healthy group especially for sexual activity and sexual enjoyment.

They were found statistically significant lower in the patient group. The mean scale of sexual activity was 6.94 points for cancer group and 25.34 points for healthy group.

**Table 3** Mean<sup>b</sup> and SD of quality of life scores compared between healthy and cervical cancer women.

<b>EORTC QLQ-C30</b>	<b>Healthy group</b>	<b>Cervical cancer group</b>	<b>p-value of t-test</b>
<b>Functioning scales</b>			
Physical Functioning	87.60 (12.15)	80.87 (16.67)	0.001
Role Functioning	90.57 (16.69)	84.83 (20.93)	0.034
Emotional Functioning	80.89 (15.93)	69.27 (19.25)	< 0.001
Cognitive Functioning	79.16 (17.30)	77.83 (17.95)	0.597
Social Functioning	93.67 (12.92)	85.18 (20.46)	0.001
Global Health/QOL	67.03 (14.61)	49.01 (26.42)	< 0.001
<b>Symptom scales</b>			
Fatigue	29.78 (19.48)	34.56 (19.84)	0.09
Nausea and Emesis	5.95 (11.03)	10.54 (16.64)	0.024
Pain	22.5 (20.29)	26.02 (22.71)	0.251
<b>Single item scales</b>			
Dyspnea	16.83 (21.49)	19.67 (20.70)	0.345
Insomnia	20.66 (25.41)	33.67 (28.62)	0.001
Appetite Loss	9.67 (15.92)	29.00 (27.48)	< 0.001
Constipation	22.78 (27.74)	26.67 (28.81)	0.336
Diarrhea	9.67 (15.92)	7.07 (13.69)	0.219
Financial Difficulties	15.48 (22.49)	37.37 (32.39)	< 0.001

<sup>b</sup> High scores indicated better functioning, except for symptom scales and single item scales

**Table 4** Mean<sup>c</sup> and SD of quality of life scale by 24-Item cervical cancer Module compared between healthy and cervical cancer women.

EORTC QLQ-CX24	Healthy group	Cervical cancer group	p-value of t-test
Symptom Experience	12.78 (10.01)	22.64 (12.23)	< 0.001
Body Image	18.01 (16.54)	24.61 (21.09)	0.018
Sexual/Vaginal Functioning	11.67 (14.27)	9.50 (14.38)	0.379
Lymphedema	6.00 (15.26)	11.44 (20.29)	0.034
Peripheral Neuropathy	20.67 (21.59)	30.67 (28.69)	0.006
Menopausal Symptoms	16.67 (21.96)	23.90 (26.09)	0.035
Sexual Worry	10.06 (17.51)	14.58 (25.50)	0.155
Sexual Activity	25.34 (23.56)	6.94 (15.23)	< 0.001
Sexual Enjoyment	35.29 (28.33)	11.86 (26.08)	< 0.001

<sup>c</sup> High scores indicated worse functioning, except for sexual activity and sexual enjoyment

## DISCUSSION

In this present study, the quality of life for newly diagnosed cervical cancer patients was less than general healthy women. The baseline characteristic of newly diagnosed cervical cancer patients was older than general population, similar to the previous study.<sup>19</sup> This study found age of cervical cancer group ranged from 30 to 75 years and mean age was 52.43 years. The mean age and range of healthy women in check up clinic were 45.11 years and 27-64 years respectively. This results showed that the younger women had healthy and normal symptom. The education level in cancer groups was lower than healthy women in check up clinic and more financial difficulties than healthy women due to the less favorable socioeconomic status in cancer patients. This finding was consistent with earlier data for the association between cervical cancer and low socioeconomic status.<sup>12,21,22</sup> In difference of marital status and parity, cervical cancer group had more previous and current marriage, and

amount of children than healthy group. These factor represented the well known risk factor of cervical cancer. The history of cancer in family was highly found in cervical cancer group. This wasn't scientific evidence because the cervical cancer is not transmitted by genetic disease.<sup>23</sup> This present study was evaluated quality of life in cervical cancer patients by questionnaire. The age of cervical cancer group was older than healthy group similar to Maio et al<sup>24</sup> presented quality of life in elderly patients with cancer. The result showed that the quality of life assessment in elderly was complicated and challenged to evaluate in reason of higher proportion of illiteracy as compare with younger patients, present of cognitive disorder with difficulty to understand questionnaires, presence of comorbidities potentially confusing the real impact of cancer and treatment on QoL, scores of QoL should be carefully evaluated. Because this study used well trained interviewers for patients who could not complete herself questionnaire.

The QoL of newly cervical cancer patients found more impaired QoL in all functioning scale and more cancer specific QoL. The QoL scores in this study was comparable with the previous study in cervical cancer patients <sup>2,18,19</sup> that represent cervical cancer highly affect on patients. Powell et al <sup>25</sup> presented cervical cancer patients had greater negative quality of life than other gynecologic malignancy. This correlated with greater physical impact of this disease. Emotional functioning was composed in question about anxiety, stress, worry and depression, was significant in cervical cancer patients. The bad emotional function may be progress to mood disorder by somatization and may also aggravate their anxiety by every symptom (i.e., vaginal bleeding, discharge, and pain) <sup>5,26</sup> The cognitive function of cervical cancer group in this study was lower than healthy women with non-significant difference, was directed influence from self-esteem according by Taylor's Theory of Cognitive Adaptation. <sup>27</sup> Cancer may change for bodily experience, self-concept, and personal relationships, which was lowered self-esteem and cognitive function. Physical function was worse in cervical cancer group, similar to previous study. <sup>28</sup> They found positive factor correlated with physical well-being. (age and education level which same in present study.)

Bottomley et al <sup>29</sup> reviewed health-related quality of life research. This study showed that the general health-related quality of life data provided information and both inform clinicians about effecti-veness of the treatment and patients for make decisions regarding the treatment choice. This present study used questionnaire of EORTC

in health-related quality of life and site of cancer specific. The EORTC had been involved in cancer clinical trials for more than 40 years <sup>29</sup>, instrument for use in international clinical trials in oncology <sup>13</sup> especially and translated in Thai language.

The sexual function was problematic in cervical cancer patients because the cervix was pelvic organ which was represented female gender. Newly patients had symptom from cervical cancer such as vaginal bleeding, vaginal discharge, postcoital bleeding, pelvic pain and dyspareunia which directly affect on sexual activity and sexual behavior. This finding was consistent with the previous study. <sup>19</sup>

Yost et al identified <sup>30</sup> the predictor of health-related quality of life, which were socio-demographic, clinical, and health care variables. The sociodemographic significance which were non-hispanic white, marital status, household income and financial problem. The health-related quality of life was prolong time to treatment and chemotherapy at the time of initial survey which were that statistically significant. Gil et al <sup>31</sup> reported physical, mental status, age and educational level were baseline characteristics influencing quality of life in women undergoing gynecologic oncology. Distefano et al <sup>32</sup> presented multivariate analysis. The comorbidity, low educational level, age were more than 50 years. The unemployment status were mainly associated with poor quality of life scores. Taecha-boonsermsak et al <sup>33</sup> presented that the causal relationship quality of life only in radiotherapeutic cervical cancer patients, stage of cancer had a significant directnegative effect on quality of life.

## RECOMMENDATIONS

This present study was found that QoL in newly cervical cancer patients worse than healthy women. This problem will affect on management of cervical cancer such as patients do not get complete treatment. So, healthcare providers should evaluate QoL in new cancer patients and took counseling and psychological interventions

to patients and their families for gain well-being and QoL.

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