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Assessment of the Quality of Life for Gynecologic Cancer Patients Using Functional Assessment of Cancer Therapy-General (Fact-G) Questionnaire at Haji Adam Malik Hospital

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Abstract

BACKGROUND: Nowadays, successful treatment of cancer is not only measured by 5-years survival rate, but also by the patient's quality of life (QOL). Delayed in the seeking of cancer treatment resulted in high morbidity and impact on the quality of life.

AIM: This study aims to assess the QOL of patients with gynecologic cancer after therapy. The results of this research can be used as a basis for cancer treatment that should be holistic, not only to eradicate the disease, but also improve QOL.

METHODS: A total of 47 respondents who went to the Department of Oncology, Haji Adam Malik Hospital Medan from May to October 2015 were asked to fill out the FACT-G questionnaire for the QOL assessment. The patient's personal and disease data was taken from the medical records. The data were analysed statistically by one-way ANOVA test.

RESULTS: The results showed that the physical, social, emotional and functional of cancer patients were not much different based on the variables studied. The QOL was higher in patients with endometrial cancer compared with other types of cancer. The QOL was also higher in patients who had completed treatment (> 6 months) and early-stages cancer. There was no statistical difference between the QOL of patients with gynecologic cancer based on therapeutic modalities, duration of treatment and the stage of disease (p > 0.05).

CONCLUSION: This current study found the QOL, physical, and emotional complaints are still encountered.

Introduction

The incidence of gynecologic cancers in the United States (cervical, ovarian, uterine, vaginal and vulvar cancers) reaches 90,000 cases per year. It represents 11% of the total number of cancers among women in the United States. Despite the resemblances in the involvement of female reproductive system, each type of cancer is different in terms of prevention, diagnosis, and treatment, and requires special research for each type of cancer [1]. Due to the absence of cancer registration data, the Ministry of Health assumes that cancer incidence in Indonesia is around 100 per 100,000 population.

Based on the pathology, there are ten types of cancer with the highest frequency in women, cervical cancer, breast cancer, ovary, skin, thyroid, rectum, lymph nodes, uterine corpus, colon and nasopharynx. Cervical cancer is 75% of all cancers in women and is usually diagnosed at an advanced stage [2].

In modern cancer management, in addition to treating illness, the psychological and social aspects of the patient must also be considered to achieve a high quality of life. Quality of life (QOL), in addition to being subjective and multidimensional, can be defined as a person's habits or physical, emotional and social conditions are affected by his medical condition and his treatment [3]. Cancer management reflects not only the eradication of disease but also the

improvement of social, economic circumstances, the emotional attitudes and behaviour of individuals in the acceptance of the disease. The QOL assessment is becoming increasingly recognised as an assessment of the success of therapy and predictors in cancer patients [3].

Several instruments have been used to assess the QOL of patients. Functional Assessment of Cancer Therapy-General (FACT-G) is a compilation of 27 questions divided into four basic domains of quality of life, i.e. physical, social, emotional, and functional dimensions. This instrument is summing the scores of individual scales, with high scores indicating a better QOL as well. Each domain is calculated based on the counting instruction, for FACT itself [4].

Although there has been much research about the overall QOL of gynecologic cancer patients, the study that provides the functional status of a gynecologic cancer survivor in daily life is still limited. The objectives of the current study were to determine the FACT-G score in the gynecologic cancer patient. This study also determined the difference between the quality of gynecologic cancer patient's life based on the therapeutic modalities, duration of treatment, and the stage of disease using the FACT-G questionnaire.

The results of this study are expected to provide an overview of the quality of gynecologic cancer patient's life, thus providing input for practitioners to pay more attention to aspects of QOL of patients along with holistic disease treatment efforts (comprehensive and integrated).

Material and Methods

Samples study

This study was an observational study using a cross-sectional design. This study was approved by Universitas Sumatera Utara and Haji Adam Malik Hospital ethics committee. The subjects were all outpatients at the Department of Oncology, Haji Adam Malik Hospital Medan from May to October 2015 that met inclusion and exclusion criteria. The candidate has signed informed consent as proof of his willingness to be the subject of the study.

Data Collection and Analysis

Initially, the subject was asked to fill The Lie-Minnesota Multiphasic Personality Inventory (L-MMPI) questionnaire as an assessment of honesty. If the L-MMPI score was less than 10, the subject might follow the next step. The data was collected using FACT-G questionnaire as the primary data, and the general information of the patient (a type of malignancies, stage of the disease, therapeutic modality, duration of

therapy, treatment responses) was collected from medical record as the secondary data. The FACT-G questionnaire used was the Indonesian version that had been validated and generally used in recent studies, included four subscales assessment of the state of physical, social-family, emotional, and functional well-being.

Statistics

Data were analysed by one-way ANOVA. The level of significance was set at *p*-value < 0.05.

Results

This study recruited 47 patients as the subject of research. Most of the subject were 40-60 years old (74.5%) and involved female patients who have cervical cancer (57.4%), endometrial cancer (4.3%), and ovarian cancer (38.3%). The subject was generally married (93.6%) with most of the largest education junior high school graduate (48.9%), and the lowest was undergraduate (10.6%). Based on the occupation, the subject was housewives generally (80.9%). Most patients were in the early stages (57.4%). The distribution of the characteristics of the study subject was summarised in Table 1 below.

Table 1: Distribution of the characteristics of the study subject

Characteristics	N	%
Age		
< 40 Years	6	12.8
40-60 Years	35	74.5
> 60 Years	6	12.8
Marital Status		
Divorced	3	6.4
Married	44	93.6
Education		
Junior highs school	23	48.9
High school	19	40.4
Undergraduate	5	10.6
Work		
Work	9	19.1
Housewife	38	80.9
Cancer types		
Cervical Cancer	27	57.4
Endometrial Cancer	2	4.3
Ovarian Cancer	18	38.3
Interval Treatment		
< 2 Months	18	38.3
> 6 Months	12	25.5
2-4 Months	16	34.0
4-6 Months	1	2.1
Therapy modality		
Combination Therapy	44	93.6
Surgery	2	4.3
Radiation	1	2.1
Stage Cancer		
Early-stage		
I B1	6	12.8
I B2	2	4.2
I C	10	21.3
II B	9	19.1
Advances stage		
III B	15	32.0
III C	5	10.6

N (Total) = 47 (100.0%).

Based on Table 2, the subject of endometrial cancer had a highest total score of FACT-G (92.00 ± 9.899) compared with ovarian cancer (83.89 ± 14.046)

and cervical cancer (14.563 ± 81.37). Patients with age 40-60 years old had the highest total score of FACT-G (83.74 ± 12.935) compared with age groups < 40 and > 60 years old. The divorce patients had a higher total score of FACT-G (94.00 ± 3.606) than the married group. The working group had a higher total score of FACT-G (90.22 ± 7.014) than the housewives.

Table 2: FACT-G score based on the characteristics of the study subjects

Characteristics	Physical Dimensions	Social Dimension	Emotional Dimension	Functional Dimension	Total score
	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD
Cancer types					
Ovarian cancer	24.06 ± 4.151	22.28 ± 4.650	17.89 ± 4.241	19.72 ± 5.085	83.89 ± 14.046
Cervical cancer	22.11 ± 4.660	21.30 ± 4.564	18.44 ± 4.846	18.89 ± 5.632	81.37 ± 14.563
Endometrial cancer	22.50 ± 7.778	24.00 ±,000	22.00 ± 2.828	± 23.50, 707	92.00 ± 9.899
Age					
< 40	20.17 ± 5.193	21.33 ± 6.377	17.00 ± 6.033	21.67 ± 5.715	81.83 ± 15.766
40-60	23.69 ± 4.206	21.86 ± 4.008	18.97 ± 3.321	19.06 ± 5.127	83.74 ± 12.935
> 60	20.83 ± 5.115	21.83 ± 5.981	16.33 ± 8.359	19.17 ± 6.555	78.17 ± 20.566
Marital status					
Married	22.52 ± 4.511	21.77 ± 4.630	18.32 ± 4.684	19.09 ± 5.313	82.02 ± 14.292
Divorced	28.00 ± 0.000	22.00 ± 0.000	19.33 ± 2.082	24.00 ± 3.606	94.00 ± 3.606
Work					
Work	25.00 ± 2.828	23.56 ± 2.963	19.44 ± 3.321	21.89 ± 2.759	90.22 ± 7.014
Housewife	22.37 ± 4.778	21.37 ± 4.722	18.13 ± 4.805	18.82 ± 5.642	81.03 ± 14.89

Table 3 shows the score of FACT-G based on therapeutic modalities, duration of treatment, and the stage of the disease. Based on the table, the radiation treatment group had the highest total score of FACT-G (98.00 ± 0.000) compared to other treatment groups. The subjects who had completed the treatment (> 6 months) had the highest total score of FACT-G (88.92 ± 7.242) compared with the subject who received treatment for less than six months. Patients in the early stage had a higher total score of FACT-G (84.06 ± 14.010) than patients in an advanced stage. Statistically, the difference of the QOL of gynecologic cancer patients based on modality therapy, duration of treatment, and the stage of disease was no significant ($p > 0.05$).

Table 3: FACT-G scores based on modality therapy, duration of treatment and the stage of the disease

Characteristics	Physical dimensions	Social dimension	Emotional dimension	Functional dimension	Total score	P-value
	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	
Modality therapy						0.968
Combination	22.68 ± 4.579	21.73 ± 4.597	18.23 ± 4.61	18.95 ± 5.180	81.95 ± 14.221	
Surgery	28.00 ± 0.000	21.00 ± 1.414	19.00 ± 2.828	25.50 ± 3.536	93.50 ± 4.950	
Radiation	21.00	26.00	24,00	27.00	98.00	
Duration of therapy						0.864
< 2 months	21.56 ± 4.328	22.56 ± 4.076	18.50 ± 74	17.72 ± 5.737	80.33 ± 15.36	
2-4 months	24.06 ± 4.074	20.69 ± 4.799	18.50 ± 4.53	19.13 ± 5.227	82.69 ± 14.81	
4-6 months	17.00	12.00	13.00	13.00	55.00	
> 6 months	23.75 ± 5.172	22.92 ± 3.825	18.50 ± 4.62	22.83 ± 3.070	88.92 ± 7.242	
Stage of disease						0.901
Early	23.94 ± 4.478	21.83 ± 4.541	17.72 ± 4.17	20.61 ± 5.553	84.06 ± 14.01	
Advanced	22.21 ± 4.570	21.76 ± 4.549	18.79 ± 4.81	18.66 ± 5.143	82.00 ± 14.43	

Discussion

This study provides that the majority of gynecologic cancer patients in Haji Adam Malik Hospital Medan were cervical cancer (57.4%), followed by ovarian cancer (38.3%) and endometrial cancer (25.5%). This was similar to a recent study by Wilailak _et al._ that the subjects were cervical cancer patients (65.6%), ovarian cancer (17.1%), and endometrial cancer (12.4%) [41]. The subjects underwent the treatment for > 2 months (38.3%), 2-4 months (34.0%), and 4-6 months. The subjects had received combination therapy (93.6%) and radiation therapy (2.1%).

This current study also showed that most patients were in the early stage of disease (57%). Aziz (2009) found that most patients in his study were in an advanced stage of disease [2]. In contrast with this study, fewer the advanced stage patients might be due to the worsening of their condition or died during or after therapy.

Based on the total score of FACT-G, the endometrial cancer group had the highest QOL compared with ovarian cancer and cervical cancer group. The endometrial cancer group consisted of two patients, and both were in the early stage. Wilailak et al. also found that patients with endometrial cancer have a higher score of FACT-G than the two ovarian and cervical cancer [5].

Ovarian cancer group had the most physical complaints compared to other cancer types. Overall, patients with ovarian cancer had a higher survival rate than the one of cervical cancer. This may be due to chemotherapy sensitivity and surgery therapy as the primary treatment. Patient with advanced cervical cancer may not be able to perform surgical therapy. The principle of gynecologic cancer therapy may be the reason for the highest QOL of patients with ovarian cancer, especially in the physical dimension, compared to other cancer types. Jorge _et al._ found that cancer patients who undergo chemotherapy have more physical complaints. This was due to the toxicity of chemotherapy drugs, which caused pain, weakness, nausea and vomiting, and loss of appetite. These effects can interfere with daily activity and have a direct impact on QOL [6].

Endometrial cancer patients had a higher score of FACT-G in all three dimensions. This was due to the number of endometrial cancer patients is only two people and have a high score for each dimension. Since the diagnosis of cancer was established, all the process will change the patient's behaviour in the understanding the sense of life, and disturb the daily activity, the work, and the human relationship, family role, and the psychologic. Stress will arise in the form of anxiety and or depression. Stress is associated with the uncertainty of diagnosis, the side effects of chemotherapy or radiation, lack of

personal and social control, physical deterioration, and fear to face death. Social support has a very good advantage when dealing with psychological problems such as anxiety and depression, which is common in cancer patients. A recent study found that the incidence of psychological disorders is 31.8% during the first year in patients with low social support [7].

The emotional aspect is the most difficult aspect controlled by 45% of cancer patients, especially that who have children. Patients with the low socio-economic state (59%) are more difficult to control the emotional aspect than the one who has a high socio-economic state (41%). Female has difficulty in dealing with the emotional aspect than male (49% vs 37%) [6].

The patient is 40 to 60 years old had a higher total score of FACT-G than the other age groups. This age group was considered to have matured physically, emotionally, and have better social relationships, although their ability will be lower than the young group. This was in line with the study by Wilailak, which showed that the age group of 40-60 years have a higher total score of FACT-G [5].

The divorce group had a higher QOL compared with the married group. This may be due to a smaller number of divorce patients (3 patients) compared with the married group (44 patients), although both groups have a good QOL. Wilailak et al. found that the married group have a better QOL than the divorced group. This was due to the support of the partner of life during the treatment [5]. The divorce patients have no person who provides the main support during the treatment.

Moreover, cancer disease has an association with a partner relationship. The partner can help the patient to control the emotional aspect, fear of the recurrent disease and provide positive support, optimism, and happiness of the patient. This goal can certainly be achieved if there is good communication between partner [8].

A survey by the Macmillan Cancer Group found that 26% of patients diagnosed with cancer for the first-time experienced problems with their partners. About 25% eventually divorced. Cancer patients who have children, especially those younger than 18 years, more often impaired in marriage relationships than those without (42% compared to 21%). Moreover, 43% of patients with cancer complain of interference in sexual activities [9].

The worker group had a higher QOL compared with the housewives (non-worker). This may be due to the working group to have more chance to meet the other people, causing they have a better social relationship, and be able to forget the misery of their disease.

The radiation therapy group had a higher total score of FACT-G than the surgery and the combination therapy group. This may be due to the more side effects of the surgery therapy than radiation therapy. Side effects of the surgery therapy are surgical wound infection, the difficulty of the wound healing, the urinary tract and the gastrointestinal trauma. The patients feel these for months after surgery [10]. The radiation therapy has fewer side effects than surgery therapy, such as gastrointestinal complaints caused by radiation proctitis, or urinary complaints caused by radiation cystitis [11]. These results were not in line with the recent study, which found that the surgery therapy group have a higher total score of FAC-G than the radiation therapy group. The side effects of radiation therapy last longer than surgery therapy [5].

The completed therapy group (> 6 months) had a higher total score of FACT-G than the other group. It might be caused by the ability of the patient's adaptation to the treatment, as well as the decrease of the side effect of the treatment.

The patients in the early stage of disease had a higher QOL based on the mean score of FACT-G than the patients in the advanced stage. However, the current study showed that both groups have good QOL. Putri et al. found that the most cervical cancer patients in Haji Adam Malik Hospital were patients in an advanced stage. The patients in the advanced stage have a lower survival rate and QOL than the patients in the early stage [12].

There was no difference between modalities therapy, duration of treatment, and disease stage based on the total score of FACT-G. Wilailak found that there was a significant difference between the surgery therapy group, the chemotherapy group, and the radiation therapy group based on the total score of FACT-G ($p < 0.05$). This may be due to the number of the subject used by Wilailak was larger than this current study. A recent study was in line with the results of the current study [5].

The QOL of gynecologic cancer patients who followed up after treatment was generally good based on FACT-G score. This group have good social relationships, despite the physical and emotional complaints are still occurred. Physical and emotional problems occur in all cancer patients. Increasing susceptibility to the stress results from the ageing process and the weakness of some physiological systems. The disability of daily activities can worsen the clinical manifestations of comorbidities, i.e. cachexia, which can directly decrease the QOL. Therefore, holistic treatment of cancer patients is very important.

In conclusion, patients undergoing radiation therapy had a higher quality of life compared to surgery or combination therapy. Patients who have completed treatment (> 6 months) and still in the early stages have better QOL. However, there was no difference of QOL between the modalities of therapy, duration of treatment and stage.

In the treatment of cancer patients, an oncologist is not only exposed to medical conditions, but also on psychosocial conditions. Holistic care helps relieve physical, psychological, and spiritual problems. Therefore, it is the responsibility of the doctors, nurses, and patient families together.

References

1. American Cancer Society. Cancer facts & figures. Atlanta: American cancer society, 2012. Available from: https://www.cancer.org/research/cancer-facts-statistics/all-cancer-facts-figures/cancer-facts-figures-2012.html

2. Aziz MF. Gynecological Cancer in Indonesia. J Gynecol Oncol. 2009; 20(1):8-10. https://doi.org/10.3802/jgo.2009.20.1.8 PMid:19471661 PMCid:PMC2676491

3. Cella DF. Measuring the quality of life in palliative care. Semin Oncol. 1995; 22(2 Suppl 3):73-81. https://doi.org/10.1007/BF00343916 PMid:7697298

4. Akkuzu G. Quality of Life Gynecologic Cancer Survivors Compared to Healthy Check Up Women. J Gynecol Oncol. 2011; 22(2):103-9. https://doi.org/10.3802/jgo.2011.22.2.103 PMid:21860736 PMCid:PMC3152750

5. Wilalak S, Lertkhachonsuk AA, Lohacharoenvanich N, Luengsukcharoen SC, Jirajaras M, Likitanasombat P, Sirilerttrakul S. Quality of Life Gynecologic Cancer Survivors Compared to Healthy Check Up Women. J Gynecol Oncol. 2011; 22(2):103-9. https://doi.org/10.3802/jgo.2011.22.2.103 PMid:21860736 PMCid:PMC3152750

6. Jorge LLR, da Silva SR. Evaluation of the Quality of Life of Gynecological Cancer Patients Submitted to Anti Neoplastic Chemotherapy. Rev Lat Am Enfermagem. 2010; 18(5):849-55. https://doi.org/10.1590/S0104-11692010000500003 PMid:21120402

7. Usta YY, Importance of social support in cancer patients. Asian Pac J Cancer Prev. 2012; 13(8):3569-72. https://doi.org/10.7314/APJCP.2012.13.8.3569 PMid:23098436

8. Karabinis G, Koukourikos K, Tsaloglidou A. Psychological Support and Quality of Life in Patients with Gynecological Cancer. Int J Res Med Sci. 2015; 3(11):2992-7. https://doi.org/10.18203/2320-6012.ijrms20150948

9. Macmillan Cancer Support. Worried Sick: The Emotional Impact of Cancer. Opinion Leader Research; 2006.

10. Erekson EA, Yip SO, Ciarleglio MM, Fried TR. Post Operative Complications after Gynecologic Surgery. Obstet Gynecol. 2011; 118(4):785-93. https://doi.org/10.1097/AOG.0b013e31822dac5d PMid:21934441 PMCid:PMC3178335

11. Viswanathan AN, Lee LJ, Eswara JR, Horowitz NS, Konstantinopoulos PA, Mirabeau-Beale KL, Rose BS, von Keudell AG, Wo JY. Complications of pelvic radiation in patients treated for gynecologic malignancies. Cancer. 2014; 120(24):3870-83. https://doi.org/10.1002/cncr.28849 PMid:25056522

12. Putri RE, Sahil MF, Edianto D. Kanker Serviks RSUP. H. Adam Malik Medan 2008-2012: Karakteristik Modalities Terapi, dan Luaran Pasien, 2012.