Research Article

Quality of Life Assessment in Patient who Underwent Chemotherapy in Gynecologic Oncology Division

Penilaian Kualitas Hidup pada Pasien yang menjalani Kemoterapi di Divisi Onkologi Ginekologi

Hariyono Winarto, William Halim

Division of Gynecologic Oncology
Department of Obstetrics Gynecology
Faculty of Medicine Universitas Indonesia
Dr. Cipto Mangunkusumo General Hospital
Jakarta

Abstract

Objective: To determine the quality of life in cancer patients who underwent chemotherapy treatment.

Methods: A cross-sectional study was conducted from June to August 2019. Patients with cancer, who had undergone chemotherapy and willing to participate were included in this study. The European Organization for Research and Treatment of Cancer Quality of Life Questionnaire-30 (EORTC QLQ–30) questionnaire was used as the measurement tool. The patients were grouped into three groups based on the cycles of chemotherapy.

Results: Sixty three responders participated in the study. As the treatment progressed, there was a significant decrease in Global Health Status (GHS) and social function. In symptom scales, there was a significant increase in nausea and vomiting, pain, and insomnia.

Conclusions: There was a decrease in the quality of life in patients with gynecological cancer who underwent chemotherapy in dr. Cipto Mangunkusumo National General Hospital. This result should be an evaluation for the healthcare provider to implement a holistic approach in managing cancer patients.

Keywords: chemotherapy, gynaecological cancer, quality of life.

Abstrak

Tujuan: *Untuk menilai kualitas hidup pasien kanker yang menjalani kemoterapi.*

Metode: *Penelitian dilakukan dengan metode potong lintang, dilakukan dari Juni hingga Agustus 2019. Semua pasien dengan kanker yang menjalani kemoterapi dan bersedia mengikuti penelitian diikutsertakan dalam penelitian ini. Penilaian dilakukan menggunakan kuisioner dari The European Organization for Research and Treatment of Cancer Quality of Life Questionnaire-30 (EORTC QLQ-30) digunakan. Pasien dikelompokkan menjadi 3 kelompok berdasarkan siklus kemoterapinya.*

Hasil: *Terdapat 63 pasien yang berpartisipasi dalam penelitian ini. Seiring pengobatan, terdapat penurunan signifikan pada global health status (GHS) dan fungsi sosial. Gejala yang meningkat secara signifikan antara lain mual dan muntah, nyeri, dan insomnia.*

Kesimpulan: *Terdapat penurunan kualitas hidup pada pasien kanker ginekologi yang menjalani kemoterapi di Rumah Sakit Dr. Cipto Mangunkusumo. Hasil penelitian ini menjadi evaluasi untuk penyedia layanan kesehatan agar dapat menangani pasien kanker secara holistik.*

Kata kunci: *kanker ginekologi, kemoterapi, kualitas hidup.*

Correspondence author. Hariyono Winarto. hariyono.winarto@ui.ac.id

INTRODUCTION

Data from the Global Burden of Cancer (Globocan) 2018 estimated a total of 8.622.539 new cancer cases globally. Cervical cancer ranked fourth with an estimation of 549.847 cases, with 311.365 deaths. Uterine corpus ranked sixth with an estimation of 382.069 new cases and 295.414 cases, while ovarian cancer ranked eighth with an estimation of 89.929 new cases and 184.799 deaths. The estimated incidence of cancer in Indonesia in 2018 were 188.231 cases. Cervical, ovarian, and uterine corpus were ranked 2nd, 3rd, and 7th with an estimated incidence of 32.469, 13.310, and 6.745 cases and accounted for 18.279, 7.842, and 2.407 deaths respectively.[1]

Treatment in cancer patients requires a multimodality approach for the diagnosis and various methods of treatment, such as surgery, chemotherapy, radiation, or palliative treatment. Chemotherapy has a crucial role in cancer treatment in present days, and it can even increase the survivability of patients in some cases that proven to be deadly in the past.[2,3] The purpose of chemotherapy is to eradicate the cancer cells, but the normal tissue will also be affected, which will cause side effects.[2,4] In our department, oral prophylactic drugs for nausea such as ranitidine, ondansetron, and pain such as mefenamic acid or ketorolac are prescribed before chemotherapy.

With the advancement of era, survivability is not the sole aspect of cancer treatment goal. Patient's quality of life has become an important aspect. Health-related quality of life is a multidimensional concept of an individual perceived physical, mental, and social health status, which is affected by cancer diagnosis or treatment,[5] measured with the European Organization for Research and Treatment of Cancer Quality of Life Questionnaire-30 (EORTC QLQ-30) questionnaire. This questionnaire will include physical, mental, and financial factors.[3,6] EORTC QLQ-30 validation and reliability has been proven internationally and has been used in more than 9000 studies.[7–9]

This study aims to assess the quality of life in patients with gynecological cancer in our institution who underwent chemotherapy to provide a better holistic approach in the treatment of gynaecological cancer patients.

METHODS

This was a cross-sectional study to measure the quality of life of patients with gynecologic cancer who underwent chemotherapy. The study was conducted from June to August 2019. Patients who were diagnosed with cancer and had undergone chemotherapy were included. After we obtained the informed consent from patients and/or family, we assessed their quality of life. We used the EORTC QLQ-30 questionnaire to assess the patients' quality of life. The assessment was performed on the day after chemotherapy. The protocol has been reviewed and approved by our institution's ethical committee (Ethical Clearance No.KET-206/UN2F1/ETIK/PPM.00.02/2019; Protocol No. 19-03-0234).

Statistical Analysis

Participants were divided into three groups based on the number of chemotherapy cycles. Group 1 consisted of participants who had already undergone 1-2 cycles of chemotherapy, group 2 consisted of participants who had already undergone 3-4 cycles of chemotherapy, and group 3 consisted of participants who had already undergone 5 cycles of chemotherapy and above. The comparison of the EORTC QLQ-30 score was analyzed using the analysis of variance (ANOVA) and Tukey's honestly significant difference test (T-HSD). Statistical analysis was done using Statistical Package for Social Sciences (SPSS) program.

RESULTS

A total of 63 participants were recruited from June until August 2019. The patient's average age was 45.4 ± 12.72 years old. The patient's characteristics were presented in Table 1.

Table 1. Patient's Characteristics

Variable	Group	Frequency	%
Age	< 20	1	2
	21 - 30	8	13
	31 - 40	7	11
	41 - 50	24	38
	51 - 60	16	25
	61 - 70	6	10
	> 70	1	2
Marital Status	Married	57	90
	Not Married	6	10
Education	Primary School	8	13
	Junior High School	3	5
	High School	21	33
	Scholar	31	49
Occupation	Student	1	2
	Housewife	33	52
	Private	7	11
	Professional	18	29
	Not Active	4	6
Cancer type	Ovary	52	83
	Endometrial	4	6
	Fallopian Tube	2	3
	Trophoblastic	5	8
Previous Operation	Complete Surgical Staging	35	56
	Incomplete Staging	11	17
	Tumor Debulking	6	10
	Total Hysterectomy	2	3
	Curettage	3	5
	Non	6	10
Family History	Positive	21	33
	Negative	42	67
Relapse	Positive	19	30
	Negative	44	70
Chemotherapy regimens	Carboplatin Paclitaxel	55	87
	Vincristine Doxorubicin Cyclophosphamide	2	3
	EMACO	6	10

From the 63 participants, 21 participants fell into group 1, 21 participants fell into group 2, and 21 participants fell into group 3. EORTC QLQ-30 result's comparison (Table 2) showed a significant decrease in Global Health Status (GHS) and social function. Symptoms scale showed a significant increase in nausea and vomiting, pain, and insomnia.

Table 2. EORTC QLQ-30 Result

Component items of EORTC QLQ-C30	Group Mean (SD)			ANOVA *P-value*	T-HSD 0.05	Between Groups Significance
	G1 (n = 21)	G2 (n = 21)	G3 (n = 21)			
Global Health Status/QOL Scale	77.0 (20)	64.7 (11)	64.7 (11)	< 0.05	12.38	G1 to G3 G2 to G3
Functional Scales						
Physical functioning	75.9 (23)	75.6 (14)	75.6 (14)	0.98		Not Significant
Role functioning	70.6 (34)	61.1 (19)	61.1 (19)	0.2		Not Significant
Emotional functioning	73.4 (15)	69.8 (18)	69.8 (18)	0.1		Not Significant
Cognitive functioning	85.7 (23)	77.8 (22)	77.8 (22)	0.3		Not Significant
Social functioning	80.2 (20)	67.5 (24)	67.5 (24)	< 0.05	16.27	G1 to G3
Symptom scales / items						
Fatigue	45.5 (23)	53.4 (19)	53.4 (19)	0.34		Not Significant
Nausea and vomiting	18.3 (25)	25.4 (22)	25.4 (22)	< 0.05	17.76	G1 to G3 G2 to G3
Pain	27.0 (27)	42.9 (17)	42.9 (17)	< 0.05	17.76	G1 to G3
Dyspnea	12.7 (22)	12.7 (19)	12.7 (19)	0.96		Not Significant
Insomnia	28.6 (30)	47.6 (22)	47.6 (22)	< 0.05	20.89	G1 to G3
Appetite loss	31.7 (34)	44.4 (30)	44.4 (30)	0.25		Not Significant
Constipation	23.8 (26)	17.5 (17)	17.5 (17)	0.28		Not Significant
Diarrhoea	17.5 (24)	25.4 (27)	25.4 (27)	0.25		Not Significant
Financial difficulties	39.7 (35)	34.9 (32)	34.9 (32)	0.85		Not Significant

The comparison also made between the study group (G1-G3) with normal women reference value as stated in study [10] (Table 3). All of the EORTC QLQ-30 components showed significant differences except dyspnea symptoms.

Table 3. Comparison between Study Group with the Normal Women Reference Value[10]

Component items of EORTC QLQ-C30	Group Mean (SD)				ANOVA *P-value*	T-HSD 0.05	Between Groups Significance
	G1 (n = 21)	G2 (n = 21)	G3 (n = 21)	G4 (Ref.)			
Global Health Status/QOL Scale	77.0 (20)	64.7 (11)	51.6 (17)	77 (18)	< 0.05	12.38	G1 to G2 G1 to G3 G2 to G3 G2 to G4 G3 to G4
Functional Scales							
Physical functioning	75.9 (23)	75.6 (14)	68.6 (17)	89 (17)	< 0.05	13.33	G2 to G4 G3 to G4
Role functioning	70.6 (34)	61.1 (19)	56.3 (20)	87 (22)	< 0.05	18.19	G2 to G4 G3 to G4
Emotional functioning	73.4 (15)	69.8 (18)	62.7 (20)	88 (17)	< 0.05	11.12	G1 to G4 G2 to G4 G3 to G4
Cognitive functioning	85.7 (23)	77.8 (22)	76.2 (21)	92 (16)	< 0.05	15.70	G3 to G4
Social functioning	80.2 (20)	67.5 (24)	51.6 (21)	93 (18)	< 0.05	15.38	G1 to G3 G2 to G3 G2 to G4 G3 to G4
Symptom scales / items							
Fatigue	45.5 (23)	53.4 (19)	54.5 (21)	20 (21)	< 0.05	15.21	G1 to G4 G2 to G4 G3 to G4
Nausea and vomiting	18.3 (25)	25.4 (22)	50.8 (23)	3.9 (13)	< 0.05	16.80	G1 to G3 G2 to G3 G2 to G4 G3 to G4
Pain	27.0 (27)	42.9 (17)	57.1 (26)	18 (24)	< 0.05	6.88	G1 to G3 G2 to G4 G3 to G4
Dyspnea	12.7 (22)	12.7 (19)	14.3 (22)	7.6 (18)	0.675		Not Significant
Insomnia	28.6 (30)	47.6 (22)	52.4 (30)	17 (26)	< 0.05	19.75	G1 to G3 G2 to G4 G3 to G4
Appetite loss	31.7 (34)	44.4 (30)	47.6 (32)	4.4 (14)	< 0.05	22.73	G1 to G4 G2 to G4 G3 to G4
Constipation	23.8 (26)	17.5 (17)	30.2 (31)	6.5 (17)	< 0.05	17.93	G3 to G4
Diarrhoea	17.5 (24)	25.4 (27)	31.7 (30)	3.8 (14)	< 0.05	19.55	G2 to G4 G3 to G4
Financial difficulties	39.7 (35)	34.9 (32)	39.7 (30)	3.6 (13)	< 0.05	23.26	G1 to G4 G2 to G4 G3 to G4

DISCUSSION

In this study, a decrease in GHS was shown chemotherapy treatment progress. Gradual increase of intensity and frequency of side effects experienced by patients compromises their physic, functional, and social lives. On the contrary, a study showed an increased quality of life as the treatment progressed.[3] A similar result.[9]

Social function significantly decreases, and the overall low result (<75) on role function and emotional function could be caused by cancer diagnosis. diagnosis itself. Moreover, the social environment will also play a role in the result. The shame and stigma associated with cancer also became a burden in some patients. In their family, some patients felt disheartening with overwhelming attention and limitation of activity from their family. Some patients who live in middle-low class social environments, mocking of cancer diagnosis and their appearance also have a massive effect on patient functional. Alopecia, the common side effect from carboplatin and paclitaxel, from carboplatin and paclitaxel have an immense effect on this functional scale. Symptoms such as pain, fatigue,

nausea, insomnia, and financial factors will also contribute to the result.

The increase of side effects will directly affect the symptoms scale. All of the participants were covered by the *Badan Penyelenggara Jaminan Nasional* (BPJS) or The Indonesian National Health Insurance. The patient who will undergo chemotherapy will be hospitalized for one day. The chemotherapy will be administered on that day, and non-complicated patients will be discharged the next day. Prophylactic treatment for the side effects of chemotherapy will be given when he/she is discharged. Symptomatic medication from the BPJS such as antiemetic (ranitidine, ondansetron) and pain killer (mefenamic acid and ketorolac) will be prescribed on the day patient discharged. Most patients felt the side effects on the third to fifth day. This delay can be problematic in providing appropriate drugs, dosage, and timing of the drug administration, which will directly affect the patient's quality of life. The National Health Insurance also has limitations in treating loss of appetite and insomnia, which will significantly affect low-income patients. The system has scheduled visits to the doctor. Early visit only covers emergency cases and symptoms such as increasing pain and nausea will not be accepted in front of schedule.

A comparison of this study with normal women reference value showed a general difference in all components of the questionnaire except dyspnea.[10] These differences demonstrate the decrease in cancer patients quality of life right after early chemotherapy treatment and as the treatment progressed compared with normal women reference value. These results imply that quality of life has not been recognized as the main component in cancer treatment. The decline in quality of life in cancer patients who underwent treatment in Indonesia should be a challenge for health providers, especially in Indonesia to implement a holistic approach for cancer patients.

This studys limitation is in the population's variety, such as types of cancer with different types, stages, surgical histories, and chemotherapy regimens, which cause a different effect on each patient. Also, there might be different perceptions and understandings of the questionnaire given, although the explanation was made prior to answering.

CONCLUSION

Cancer and its treatment will affect entirely on patient life. Conventional cancer treatment without considering the patient's quality of life can hinder the primary purpose of the treatment. There was a decline in quality of life in cancer patients who underwent treatment in our institution. The result is proof that quality of life has not been a priority in cancer treatment in Indonesia. A holistic approach should be more emphasized, especially on the patient who will undergo chemotherapy. Further study with a specific type of cancer, chemotherapy regiment, or operation history is needed to establish a more specific association between side effects of chemotherapy with quality of life.

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