

RESEARCH ARTICLE

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Comparison of the JCAHO Scoring System and the ESAS Scoring System in Determining the Palliative Care Needs of Gynecological Cancer Patients Treated at Hasan Sadikin Hospital

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Abstract

Objective: The purpose of this study was to analyze the relationship between quality of life with the JCAHO and the ESAS scoring system, and to compare the JCAHO and the ESAS scoring system in determining the palliative care needs of gynecological cancer patients treated at RSHS. **Method:** The subjects of this study were all gynecological cancer patients who were treated at RSHS in May-August 2020. This study was an analytic study with a cross sectional design. The data of this study were obtained from interviews, questionnaires and patient medical records, the study was analyzed bivariate using chi square with $\alpha = 0.05$. **Results:** The results showed that the quality of life of patients with gynecological cancer was associated with the JCAHO palliative score ($p < 0.05$), the better the patient's quality of life, the better the JCAHO palliative score. The quality of life of gynecological cancer patients was related to ESAS ($p < 0.05$), the better the patient's quality of life, the better the ESAS. There was difference between the JCAHO palliative score and the ESAS in determining the palliative care needs of gynecological cancer patients ($p < 0.05$). **Conclusion:** Quality of life has correlation with palliative scores, the lower the palliative score, the better the quality of life. This study showed significant difference between the JCAHO palliative score and the ESAS in determining the palliative care needs of gynecological cancer patients. The JCAHO palliative score measures objectively how the patient is on admission for treatment, this score not only measures the intensity of symptoms but measures the underlying disease, comorbid disease, functional status of the patient and other criteria for the patient. ESAS assesses the intensity of symptoms, the assessment of palliative care needed can change rapidly if the intensity of symptoms in patients changes.

Keywords: Gynecological cancer- quality of life- palliative care need

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Introduction

World Health Organization defines palliative care as an approach that improves patients's and their family's quality of life facing the life-threatening illness by preventing and relieving the suffering from early identification, impeccable assessment, and pain treatment of other problems, physical, psychosocial and spiritual (Karlin et al., 2018).

An estimated of 1085948 womans in the world have been diagnosed with gynecologic cancer. Most gynecologic cancer patients suffer from severe physical symptoms, such as pain, psychosocial, and spiritual burden. Procedures of diagnosis and treatment applied for gynecological cancers negatively influences patient

and family quality of life in terms of body image, sexual identity and ability of reproduction. Treatment administered during the disease process may remain ineffective, and the disease may progress or relapse. In a prospective study on 240 patients with cancer showed on average 13 symptoms (range 2-30) during diagnostic and treatment procedures. While in a retrospective study by Jung et al. discovered suffered symptoms by gynecologic patients are pain (82%), anorexia (72%), fatigue (69%), and insomnia (54%). Symptoms may impair the quality of life of patient and their families and make compliance with treatment recommendations difficult (Terzioğlu F et al., 2016).

Palliative care aims to enhance the patient's and their family's quality of life. Currently palliative care

is mistaken as terminal end-of-life care. There are three main categories of disease that may need palliative care: cancer, non-cancerous progressive diseases, and terminal diseases in children. Therefore, there are more gynecologic cancer patients that need palliative care than expected before. Two strategies can be used to predict the need for palliative care:

1. Epidemiological approach uses the cause-specific mortality in diseases likely to benefit from palliative care, and then relates this to the type and frequency of symptoms experienced by patients suffering from the terminal stages of these disease;

2. Evaluate unmet need not only in the users of specific services, but also attempt to find patients who are not receiving care who would benefit from the services on offer (Franks et al., 2000; McIlpatrick, 2007; Meffert et al., 2016).

Integration of palliative care either in combination of standard care that focuses on reducing symptoms throughout the disease results in a better quality of life for patients and reduces wasted intensive care. Accordingly, palliative care must take every symptom suffered by the patients so that the quality of life of gynecologic cancer patients will be better (Meffert et al., 2016).

Palliative care can be determined through a scoring system. The system most widely used in many countries is the Edmonton Symptom Assessment System (ESAS). ESAS has been validated in large prospective studies of adult and pediatric oncology cases, as well as patients in inpatient hospitals, inpatient palliative care units, and patients treated by palliative care consulting teams. ESAS is known as a fairly simple method for assessing and evaluating the intensity of a patient's symptoms. ESAS can be filled easily by the patient, patient's family or with the help of a doctor/nurse (Diplock et al., 2019; Hui et al., 2017).

Hasan Sadikin General Hospital (Rumah Sakit Hasan Sadikin/RSHS) Bandung is a tertiary referral hospital in West Java Province, a qualified and competitive teaching hospital in 2019. One of the leading programs of RSHS is to become the National Center for Excellence in Gynecology Oncology. The gynecology oncology unit serves all gynecologic cancer patients, such as surgeries, chemotherapies, radiations to palliative care. Every gynecologic cancer patient that has been admitted in RSHS was screened for palliative care using a special scoring form from the RSHS Palliative Care team.

The source of RSHS palliative score is from the JCAHO (Joint Commission on Accreditation of Healthcare Organizations) palliative care standard. According to the JCAHO, the palliative scoring system objectively contains the patient's condition, basic disease, comorbid disease, functional status, and other criteria that need to be considered. This system issued by JCAHO so that all hospitals can comply with this standard and can be developed according to the circumstances of each hospital. According to the JCAHO, patients with a score > 4 should receive palliative care. RSHS has used the JCAHO palliative score for many years, with several changes in the value of getting palliative care. Currently, patients with a palliative score ≥ 7 will receive palliative

care by the RSHS Palliative Team (Care., 2004).

This study aimed to analyze the relationship between quality of life and compare in determining palliative care needs with the JCAHO and the ESAS scoring system in gynecological cancer patients treated at RSHS.

Materials and Methods

This study is an analytical descriptive cross-sectional. Data sources were obtained from gynecologic malignancy patients (60 respondents) admitted to Hasan Sadikin Hospital. The questionnaire was provided for the patients during their stay at Hasan Sadikin Hospital. After giving proper instructions, participants either completed the questionnaire themselves or were interviewed (those unable to complete the questionnaire themselves). Participation in this research was voluntary, anonymous, and confidential, and all research ethics were followed.

The subjects of this study are all female patients with gynecologic malignancy admitted in Alamanda B Ward Hasan Sadikin Hospital on May to August 2020. The inclusion criteria of this study were female patients admitted in Hasan Sadikin Hospital on May to August 2020, definitely diagnosed with gynecologic malignancy, and willing to be a research respondent by filling out informed consent form. In contrast, the exclusion criteria was patient with decreased level of consciousness.

Study on all female subjects with malignancy admitted in Hasan Sadikin on May to August 2020 resulted with 60 samples. Two groups of patients were compared: patients with total score of the JCAHO palliative score < 7 and ≥ 7 . Each patient fulfilled 3 questionnaires: JCAHO palliative score, ESAS and FACT-G version 4.

This research was conducted after obtaining approval and recommendations from the Ethics Committee Review Board of Dr. Hasan Sadikin General Hospital – Faculty of Medicine, Universitas Padjadjaran No LB.02.01/X.6.5/204/2020.

Functional Assesment Cancer of Therapy-General (FACT-G version 4)

The quality of life assessment was done using Functional Assessment Cancer of Therapy-General questionnaire form (FACT-G version 4). FACT-G version 4 has 27 questions, each question answered using a 5-point scale, starting from 0 (not at all) until 4 (very much). Questions regarding respondent's health for the past 7 days are divided into 4 subscales: physical health (7 questions), social/family welfare (7 questions), emotional welfare (6 questions), functional welfare (7 questions). A higher score means a better patient's quality of life.

After the patient has filled in all the questions, then all the question scores are added up. The clasification of FACT-G are consist of :

- Total score 0-36 means that low quality of life
- Total score 37-72 means moderate quality of life
- Total score 72-108 means good quality of life

The JCAHO Paliiative Score

Hasan Sadikin Hospital determines the flow of patient palliative care management in the inpatient room. The

RSHS palliative score was adapted from JCAHO, consists of 4 major parts, namely:

1. Basic Disease with total score 12
2. Comorbidity with total score 5
3. Functional Status of Patients taken based on the ECOG system (Eastern Cooperative Oncology Group) with total score 3
4. Other criteria to consider in patients with total score 10

After all the questions have been filled, then all the question scores are added up. With the following information:

- Total score of 0-6 means not required by the palliative consul
- Total score of ≥ 7 means required by a palliative consul

ESAS

ESAS was originally developed for patients with advanced cancer. The ESAS consists of nine common symptoms of advanced cancer (pain, fatigue, nausea, depression, anxiety, drowsiness, appetite, well-being, shortness of breath), adding specific symptoms to the tenth number. ESAS uses an 11-point numeric rating scale ranging from 0 (asymptomatic) to 10 (worst). After the patient has filled in all the questions, then all the question scores are added up (Bedard et al., 2013; Watanabe et al., 2011; Yokomichi et al., 2015). With the following information:

- Total score of 0-30 means mild
- Total score of 31-69 means moderate
- Total score of 70-100 means severe

Table 1. Study Subjects' Characteristics

Variable	N (%)
Age	
<50 years old	36 (60%)
>50 years old	24 (40%)
Education	
Primary	13 (21.6%)
High	47 (78.3%)
Occupation	
Housewife	50 (83.3%)
Employee	10 (16.6%)
Monthly Income	
> Minimum Regional Wage	49 (81.6%)
\geq Minimum Regional Wage	11 (18.3%)
Cancer Type	
Trophoblast	8 (13.3%)
Ovarium	28 (46.6%)
Endometrium	7 (1.16%)
Cervix	17 (28.3%)
Purpose of Hospitalization	
Surgery	9 (15%)
Chemotherapy	18 (30%)
Generalized stabilization	33 (55%)

As a palliative care screening tool, ESAS has the following criteria:

- Mild and moderate criteria (0-69) indicate the patient does not require palliative care
- Severe criteria (70-100) indicates that the patient requires palliative care

Results

Study on all female subjects with malignancy admitted in Hasan Sadikin on May to August 2020 resulted with 60 samples with the characteristics elaborated on Table 1. The study subjects are mostly <50 years old (60%), mostly high education (78.3%), housewives (83.3%), with monthly income above minimum regional wage (81.6%), most prevalent cancer type was ovarian cancer (46.6%) and the purpose of admission was for generalized stabilization (55%).

Table 2 describes the relationship between Quality of Life and the JCAHO Palliative Score. In the JCAHO palliative score group ≥ 7 , there are 7 subjects with low quality of life (23.3%), 20 subjects with moderate quality of life (66.7%), and 3 subjects with good quality of life (10.0%). In the JCAHO palliative Score group <7, there are 0 subjects with low quality of life, 16 subjects with moderate quality of life (53.3%) and 14 subjects with good quality of life (46.7%).

Table 3 describes the relationship between Quality of Life and ESAS. In the Mild ESAS group, there are 0 subjects with low quality of life, 8 subjects with moderate quality of life (40.0%), and 12 subjects with good quality of life (60.0%). patients with Quality of Life in the category of Low were 0 or 0.0%, Moderate was 8 or 40.0% and Good was 12 or 60.0%. In the moderate ESAS group, there are 2 subjects with low quality of life

Table 2. Relationship between Quality of Life and JCAHO based RSHS Palliative Score

Variable	JCAHO Palliative Score		p value
	≥ 7 N (%)	<7 N (%)	
Quality of Life			0.035
Low	7 (23,3)	0 (0,0)	
Moderate	20 (66,7)	16 (53,3)	
Good	3 (10,0)	14 (46,7)	

For categorical data the p-value is calculated based on Kolmogorov-Smirnov test and Fisher's Exact because the terms of the Chi-Square unfulfilled.

Table 3. Relationship between Quality of Life and ESAS

Variable	ESAS			p value
	Mild N (%)	Moderate N (%)	Severe N=8	
Quality of Life				0.0001**
Low	0 (0.0)	3 (9.4)	4 (50.0)	
Moderate	8 (40.0)	24 (75.0)	4 (50.0)	
Good	12 (60.0)	5 (15.6)	0 (0.0)	

For categorical data the p value is calculated based on the Chi-Square test

Table 4. Comparison of the JCAHO Scoring System and the ESAS Scoring System

Variable	JCAHO Scoring System		p value
	≥ 7 N=30	< 7 N=30	
ESAS			0.005*
Mild and Moderate	22 (73.3%)	30 (100.0%)	
Severe	8 (26.7%)	0 (0.0%)	

For categorical data the p-value is calculated based on Kolmogorov-Smirnov test and Fisher's Exact because the terms of the Chi-Square unfulfilled.

(2.99%), 3 subjects with moderate quality of life (9.4%), and 5 subjects with good quality of life (15.6%). In the Severe ESAS group, there are 4 subjects with low quality of life (50.0%), 4 subjects with moderate quality of life (50.0%), and 0 subjects with good quality of life.

Table 4 describe comparison between ESAS and JCAHO palliative score. In the JCAHO palliative score group ≥ 7 , there are 22 subjects with mild and moderate ESAS score (73.3%) and 8 subjects with severe ESAS score (26.7%). In the JCAHO palliative score group < 7 , there are 30 subjects with mild and moderate ESAS score (100.0%) and no subjects with severe ESAS score.

Discussion

This study showed a significant relationship between quality of life and JCAHO Palliative Score (p-value < 0.05) (Table 2), the better the patient's quality of life, the better the JCAHO palliative score. Leppert et al. state that quality of life is a subjective assessment carried out by the patient to determine needs, beliefs, attitudes and values that can change from time to time. This quality of life describes the status of performance, physical, emotional, social function, symptoms and side effects of treatment in patients (Leppert et al., 2015). In this study, quality of life was measured using the FACT-G form which subjectively measures physical, social, emotional and functional conditions. The JCAHO palliative score measures objectively how the patient is on admission for treatment. This score measures the basic disease, comorbid disease, functional status of the patient and other criteria for the patient.

The results of this study indicate that the subjective assessment of the patient's quality of life is in line with the assessment of the patient's physical health condition objectively. Hwang et al., (2016) conducted a study on 40 ovarian cancer patients who were divided into 2 groups, 20 people as control and 20 people received a comprehensive program in the form of education, social support, physical exercise and relaxation therapy. The patient's quality of life was also measured using the FACT-G questionnaire. The results of this study were that the group that was given a comprehensive program received physical improvements, cardiopulmonary function improvements, muscle strength, immune response, and quality of life.

There is significant difference relationship between quality of life and ESAS in this study (p < 0.05) (Table

3), the better the patient's quality of life, the better ESAS score. In this study, the quality of life was measured using the FACT-G form which subjectively measures physical, social, emotional and functional conditions. Symptom assessment with ESAS is also a subjective and quantitative assessment of symptoms by patients by assessing the 10 symptoms present in the patient. Assessment with this ESAS is relatively easy and can quickly change according to the patient's condition, so the assessment with this ESAS is recommended twice a day (Leppert et al., 2015).

The results of this study indicate that the FACT-G quality of life assessment completed subjectively by the patient is in accordance with the assessment results with the ESAS score which is also filled subjectively by the patient. The better the ESAS score, the better the quality of life, conversely, the worse the ESAS score, the worse the quality of life. Zimmermann et al., (2014) conducted a randomized controlled trial of 461 cancer patients who experienced decreased quality of life. All patients were then given palliative care interventions and their ESAS scores were measured before and after the intervention. After 4 months of intervention, the results of ESAS improvement and quality of life improvement were obtained.

The results of this study are also in line with the research conducted by Ryu et al., (2010) conducted on 180 liver cancer patients. The research subjects were divided into 2 groups, namely subjects with mild symptoms and severe symptoms. The results of this study stated that the study subjects with severe symptoms showed worse functional status and quality of life.

The comparison between the ESAS and the JCAHO Palliative Score described well in Table 4. And showed significant difference in proportion between ESAS and JHCO Palliative care (p-value < 0.05). The JCAHO palliative score group ≥ 7 showed patients with mild and moderate ESAS category were 73.3% and severe category was 26.7%. Based on JCAHO palliative score group with a score of > 7 , 8 out of 30 patients needed palliative care based on the ESAS Scoring system. In the JCAHO palliative score group < 7 , with mild and moderate ESAS category were 100.0% and severe category was 0%. This study found that the use of JCAHO palliative score in line with the results of ESAS Scoring System in determining patients who do not need palliative care.

Afiyanti et al., (2018) of 153 gynecological cancer patients to know the relationship between the need for supportive care and the patient's quality of life. The results of this study are that patients who require supportive or palliative care are patients who have a poor quality of life. The patients with poor health and functional status have more severe symptoms of malignancy. This study emphasizes that supportive care services for patients that include psychological and physical services must be prioritized in improving the quality of life.

The goals of palliative care screening is to select a patients who need palliative care (Lefkowitz et al., 2015; Rimel et al., 2015). Providing palliative care such as treating symptoms, overcoming psychological, social and spiritual problems hoped can improve the quality

of life for patients, including their families (Kim et al., 2015; Maryati et al., 2019). This is following the research conducted by William et al., (2018) that there were 343 women with gynecological cancer. In 83% of this study's subjects stated that they needed supportive care. This study recommends the existence of an appropriate screening tool to determine a patient's need for supportive care.

Assessment with ESAS is relatively easy and can quickly change according to the patient's condition. ESAS has the advantages of being swiftly completed (<1 minute), is used by many clinical and research groups worldwide, centered on easy-to-interpret symptom assessment, is available in > 20 languages, and its free. However, ESAS has limitations because it only assesses the intensity of symptoms. The assessment of palliative care needed can change rapidly if the intensity of symptoms in patients changes. ESAS is better at determining changes in symptom intensity, so ESAS may be better for assessing the outcome or progression of palliative care (Fuchs et al., 2018; Hui et al., 2017; Lee et al., 2020; Pereira et al., 2016).

Meanwhile, the JCAHO palliative score measures objectively how the patient was admitted to being treated. This score not only measures the intensity of symptoms but measures the underlying disease, comorbid disease, functional status of the patient and other criteria for the patient. Assessment of palliative care needs using this score will not be easily changed as well as the assessment by ESAS. Palliative care should be given to all gynecological cancer patients, starting from an early stage, should not only look at the severity of the symptoms (Ferris et al., 2009; Weissman et al., 2011). Therefore, the authors agree that JCAHO recommends this screening tool for use by all hospitals in the world in determining palliative care needs.

The use and research of the JCAHO palliative score worldwide is still very limited. The use of the JCAHO palliative score in RSHS continues to experience changes, especially in determining the minimum value limit for palliative care. Initially, the value limit used to obtain palliative care is if ≥ 4 . Over time and the availability of human resources, the value limit used to obtain palliative care is changed to ≥ 7 . This value limit can still change again. Changes in the cut off value can result in changes in the standard of palliative care screening, patients who actually need palliative care can be unbiased so that they do not receive palliative care.

In conclusion, based on the results of the study, it can be concluded that the quality of life of gynecological cancer patients is related to the JCAHO palliative score, the better the patient's quality of life, the better the JCAHO palliative and ESAS score. There is a difference between the JCAHO palliative score and the ESAS in determining the palliative care needs of gynecological cancer patients, but both can still be used as a tool to determine the need for palliative care for gynecological cancer patients. The JCAHO palliative score measures objectively how the patient is on admission for treatment, this score not only measures the intensity of symptoms but measures the underlying disease, comorbid disease, functional status of the patient and other criteria for the patient. ESAS

assesses the intensity of symptoms, the assessment of palliative care needed can change rapidly if the intensity of symptoms in patients changes.

Author Contribution Statement

ABH, JSE, RTR and GNAW conceived the study. RTR collected the data. ABH, RTR and JSE analyzed the data. RTR, ABH, YMH, RA and DH wrote the manuscript and all authors approved this final version of the manuscript for publication.

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Status of Work

This study was part of a postgraduate thesis and has been approved for publication by the Department of Obstetrics and Gynaecology, Universitas Padjadjaran, Bandung Indonesia

Ethical Clearance

The ethical clearance for this study was obtained from the Ethics Committee Review Board of Dr. Hasan Sadikin General Hospital – Faculty of Medicine, Universitas Padjadjaran No LB.02.01/X.6.5/204/2020.

Availability of Data

This study's data are available upon reasonable written request to the corresponding author.

Conflicts of Interest

The authors declare that we have no conflicts of interest.

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