

QUALITY OF LIFE OF ADVANCED CERVICAL CANCER PATIENTS WITH PERCUTANEOUS NEPHROSTOMY IN HASAN SADIKIN HOSPITAL BANDUNG FROM 2018-2020

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ABSTRACT

Objective: This study aims to assess the quality of life patients with advanced stage of cervical cancer in RSUP Dr. Hasan Sadikin Bandung from 2018-2020. **Material & Methods:** This is a retrospective cohort study. The data collected from woman with advanced stages of cervical cancer without history of mental health problems or recurrent cancer, and interviewed using a validated EORTC QLQ-C30 questionnaire to assess their quality of life, and functional status based Karnofsky Performance Score (KPS) and Eastern Cooperative Oncology Group (ECOG) Performance Scale. Scores are calculated into raw score and linear transformation to standardized the range of 1-100. **Results:** 77 women were included in this study. The average age was 47.98 ± 8.46 years. Cervical cancer predominated by stage IIIa and IV (37,66%) with bilateral nephrostomy (58,44%). This study revealed an average of 63.1 in overall health status, which means there is an improvement over patient's symptoms resulted from the insertion of nephrostomy, and a poor quality of life with an average score of 48.3 which shows the progression of cervical cancer conditions suffered by patients. **Conclusion:** The use of nephrostomy in patients with advanced-stage cervical cancer (IIIa, IIIb, and IV) could help alleviate patient's symptoms, but the progressive condition of cervical cancer has made the patient's quality of life continue to decline. This is shown by the poor quality of life score in the advanced stages of cervical cancer patients, even with nephrostomy insertion. A better understanding of the complexity of the relationship between patient's quality of life, cervical cancer staging, and the use of nephrostomy is necessary to help cervical cancer patients deciding the best consent before any actions taken.

Keywords: EORTC QLQ-C30, cervical cancer, quality of life.

ABSTRAK

Tujuan: Penelitian ini bertujuan untuk menilai kualitas hidup pasien kanker serviks stadium lanjut di RSUP Dr. Hasan Sadikin Bandung tahun 2018-2020. **Bahan & Cara:** Penelitian ini merupakan penelitian kohort retrospektif. Data dikumpulkan dari wanita dengan kanker serviks stadium lanjut tanpa riwayat masalah kesehatan mental atau kanker berulang, dan diwawancarai menggunakan kuesioner EORTC QLQ-C30 yang tervalidasi untuk menilai kualitas hidup mereka, dan status fungsional berdasarkan Skor Kinerja Karnofsky (KPS) dan Skala Kinerja Eastern Cooperative Oncology Group (ECOG). Skor dihitung menjadi skor mentah dan transformasi linier untuk menstandarkan rentang 1-100. **Hasil:** 77 wanita diikutsertakan dalam penelitian ini. Usia rata-rata adalah 47.98 ± 8.46 tahun. Kanker serviks didominasi oleh stadium IIIa dan IV (37,66%) dengan nefrostomi bilateral (58,44%). Studi ini menunjukkan rerata 63,1 pada status kesehatan secara keseluruhan, yang berarti terdapat perbaikan gejala pasien akibat pemasangan nefrostomi, dan kualitas hidup yang buruk dengan skor rerata 48,3 yang menunjukkan perkembangan kondisi kanker serviks yang diderita pasien. **Simpulan:** Penggunaan nefrostomi pada pasien kanker serviks stadium lanjut (IIIa, IIIb, dan IV) dapat membantu meringankan gejala pasien, namun kondisi kanker serviks yang progresif membuat kualitas hidup pasien terus menurun. Hal ini ditunjukkan dengan skor kualitas hidup yang buruk pada pasien kanker serviks stadium lanjut, bahkan dengan pemasangan nefrostomi. Pemahaman yang lebih baik tentang kompleksitas hubungan antara kualitas hidup pasien, stadium kanker serviks, dan penggunaan nefrostomi diperlukan untuk membantu pasien kanker serviks dalam menentukan persetujuan terbaik sebelum tindakan apa pun dilakukan.

Kata kunci: EORTC QLQ-C30, kanker serviks, kualitas hidup.

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INTRODUCTION

Cervical cancer is one of significant problem in public health. In 2017, cervical cancer causes 266.000 death and 528.000 new cases. Based on GLOBOCAN, incidence of cervical cancer mentioned as the third causes of death with 18.729 death in Indonesia. Prevalence of cervical cancer in West Java is 0.7 per one-thousand-woman population. Rumah Sakit Umum Pusat Dr Hasan Sadikin (RSHS) counted 327 cases in 2017 and cervical cancer becomes the second most common type of cancer.¹⁻²

The incidence of acute kidney injury in the patient with cervical cancer is high. Over 27-33% cases of acute kidney injury caused by mass obstruction. Nephrostomy is one of management of the ureter obstruction for palliative care in the patients with terminal malignancy cases increase risk of kidney injury. The cervical cancer patients which received nephrostomy showed increased renal function in 61.7% patients and lower creatinine levels compared to patients without nephrostomy.³

Nephrostomy was indicated in the patient with decrease renal function, as obstructive uropathy with uremia is associated risk of irreversible renal damage and significant risk factor for the poor prognosis in the cervical cancer. Nephrostomy tube insertion to drain urine from kidney in the cervical cancer patient did not show significantly increased quality of life in the first 12 months period. Survival rate revealed significantly increased in the cervical cancer patients with utilization of nephrostomy than with patients whom refused it.⁴ Urine drainage exhibits low benefit in the patients with laterstage cancer and palliative care. Meanwhile, a study by Emmert et al. denotes significant elevation in the quality of life patients with palliative care for cervical cancer stage III and IV for more than 2 months in the 11 from 24 patients.⁵⁻⁶

Combination of instruments for determine quality of life in specific diseases have been established to consider cancer therapy effects on the patients' functional and psychosocial. Quality of Life Core Questionnaire (QLQ-c30) had been evolved by The European Organization for Research and Treatment of Cancer (EORTC) adopted internationally in more than 3000 research as general questionnaire for the various types of cancer.⁷ The quality of life in cervical cancer patients with nephrostomy still can not be defined yet due to only few study conducted in this aspect. This study

conducted to understand the effect of nephrostomy against the advance-staged cervical cancer patient's quality of life in RSUP Dr. Hasan Sadikin.

OBJECTIVE

This study aims to assess the quality of life patients with advanced stage of cervical cancer in RSUP Dr. Hasan Sadikin Bandung from 2018-2020.

MATERIAL & METHODS

The present study is a retrospective cohort from secondary data, which we took from the hospital's Medical Records, and then reviewed to identify eligible subjects. Subjects including female patients diagnosed cervical cancer and indicated for nephrostomy in RSUP Dr. Hasan Sadikin during January 2018 until January 2020. The exclusion criteria were patients with history of mental problems and history of recurrent cancer. All patients that were interviewed has given their consent to be participated in this study, with all identity kept anonymised for the benefit of academic purposes.

Sociodemographic data, assessment of functional status based Karnofsky Performance Score (KPS) and Eastern Cooperative Oncology Group (ECOG) Performance Scale, and Quality of Life using EORTC QLQ-c30 were interviewed from the participants. The performance status were suggested good functional status if the KPS $\geq$ 50 and ECOG Performance Scale $\leq$ 2. The data were retrieved after patients had nephrostomy and collected to continue our evaluations using vaildated EORTC QLQ-c30 with Indonesian language. The 3 major scales of EORTC QLQ-c30 are functional scales includes 5 aspects, 1 aspect of quality of life scales, and 9 aspects of symptoms scales. Each scale was interpreted into the average and standard deviations. Interpretation of quality of life was good if the functional scales and quality of life scales shows >50 scores respectively. Instead, the score >50 in the symptoms scale means the quality of life was poor.

Scores from the EORTC QLQ-C30 questionnaire calculated into 2 steps, includes:

- Raw Score (RS) using formula in the below:
Raw Score(RS) = (I1 + I2 + I3 + In)/n
- The next steps is standardized the raw score into range between 1 and 100 using linear transformations varies for each scales (Table 1).

Table 1. Linear transformation to standardizes raw score range.

Scales	Linear Transformation
Functional	$S = [1 - ((RS - 1) / \text{range})] \times 100$
Symptoms	$S = [(RS - 1) / \text{range}] \times 100$
Quality of life	$S = [(RS - 1) / \text{range}] \times 100$

Sociodemographic data analyzed as descriptive data using Chi square goodness of fit in the SPSS version 24.0 for Windows to investigate the significance of nephrostomy against the questionnaire score of EORTC QLQ-C30. Significant value defined as P value <0.05.

RESULTS

Participants of this study were 77 women with mean of age of 47.98 ± 8.46 years. They were dominantly finished of elementary level in educational aspects (38.96%), and have good

functional status as KPS score of 50-70 on scale (63.6%) and ECOG of 3 on scale (27.27%). Cervical cancer staging predominated by stage IIIa and IV (37.66%) with history of bilateral nephrostomy (58.44%) and combination of therapy included surgery, medications, chemotherapy, and radiation.

Based on EORTC QLQ-C30, the mean of the quality of life was poor as the physical scales were less than 50 (score: 48.3). Quality of life scales showed score <50 means poor quality of life of cervical cancer patients, but the functional with nephrostomy utilization.

Table 2. Sociodemographic characteristics of the studied cohort.

Sociodemographic criterias	N (%)
Age (Average : 47.98 ± 8.46)	-
Educational level	
- No education	9 (11.68%)
- Elementary	30 (38.96%)
- Junior high school	13 (16.88%)
- High school	13 (16.88%)
- Bachelor degree	12 (15.58%)
KPS	
80-100	4 (5.1%)
50-70	49 (63.6%)
<49	24 (31.16%)
ECOG	
4	15 (19.48%)
3	21 (27.27%)
2	19 (24.67%)
1	17 (22.07%)
0	5 (6.49%)

Table 3. Characteristics of disease and treatment.

Characteristics	N (%)
Cancer stage	
- IIIa	29 (37.66%)
- IIIb	19 (24.67%)
- IV	29 (37.66%)
Nephrostomy types	
- Bilateral	45 (58.44%)
- Right	20 (25.97%)
- Left	12 (15.58%)
Management	
Surgery	9 (11.68%)
Nephrostomy only	11 (14.28%)
Others	57 (74.02%)

Table 4. EORTC QLQ-C30 questionnaire for quality of life assessment.

Scales	Mean $\pm$ SD
Physical scales	
- Trouble doing strenuous activities	69.6 $\pm$ 0.93
- Trouble taking a long walk	51 $\pm$ 1.23
- Trouble taking a short walk outside	56 $\pm$ 1.19
- Stay in bed or a chair during the day	40.6 $\pm$ 1.209
- Need help for ADL	60.3 $\pm$ 1.14
- Limited in work	64.3 $\pm$ 0.97
- Limited in hobbies	36.6 $\pm$ 1.09
- Shortness of breath	36.3 $\pm$ 0.78
- Pain	71.3 $\pm$ 0.92
- Need to rest	57.3 $\pm$ 1.3
- Trouble sleeping	39.6 $\pm$ 0.91
- Weak	74.6 $\pm$ 0.84
- Lack of appetite	64.3 $\pm$ 1
- Nausea	32.3 $\pm$ 0.97
- Vomit	19.3 $\pm$ 0.87
- Constipation	16 $\pm$ 0.69
- Diarrhea	66.6 $\pm$ 0.87
- Tired	80.3 $\pm$ 0.80
Average scores	52.1 $\pm$ 0.98
Functional scales	
- Pain interferes daily activities	21.3 $\pm$ 2.45
- Difficulty in concentration	64.6 $\pm$ 1.03
- Tense	72 $\pm$ 0.92
- Worry	54.3 $\pm$ 1.02
- Irritable	29.6 $\pm$ 1.05
- Depression	29.6 $\pm$ 0.84
- Difficulty in remembering things	70.6 $\pm$ 0.77
- Physical condition or medical treatment interfered family life	30.3 $\pm$ 0.92
- Interfere social activities	32 $\pm$ 0.92
- Financial difficulties	59 $\pm$ 0.87
Average	46.33 $\pm$ 1.07
Quality of life scales	
- Overall health status	63.1 $\pm$ 1.28
- Overall quality of life	48.3 $\pm$ 1.25
Average	55.7 $\pm$ 1.26

QUESTIONNAIRE EORTC QLQ-c30 in Bahasa Indonesia Version (Validated)

	Tidak	Sedikit	Sering	Sangat Sering	
1. Apakah Anda mengalami kesulitan saat melakukan kegiatan yang berat, seperti membawa barang belanjaan atau koper yang berat?	1	2	3	4	
2. Apakah Anda mengalami kesulitan jika berjalan kaki dalam <u>jarak yang jauh</u> ?	1	2	3	4	
3. Apakah Anda mengalami kesulitan saat berjalan kaki meskipun dalam <u>jarak yang pendek, misalnya</u> di sekitar rumah Anda?	1	2	3	4	
4. Apakah setiap hari Anda harus berbaring di tempat tidur atau duduk di kursi ?	1	2	3	4	
5. Apakah Anda memerlukan bantuan orang lain saat makan, berpakaian, mandi atau buang air?	1	2	3	4	
Dalam seminggu terakhir:					
6. Apakah Anda mengalami keterbatasan saat bekerja atau melakukan kegiatan sehari-hari lainnya?	1	2	3	4	
7. Apakah Anda mengalami keterbatasan saat melakukan kegiatan santai atau kegiatan yang merupakan hobi Anda?	1	2	3	4	
8. Apakah Anda merasa sesak nafas?	1	2	3	4	
9. Apakah Anda merasa nyeri?	1	2	3	4	
10. Apakah Anda perlu beristirahat?	1	2	3	4	
11. Apakah Anda sulit tidur?	1	2	3	4	
12. Apakah Anda merasakan badan Anda lemah?	1	2	3	4	
13. Apakah Anda kehilangan nafsu makan?	1	2	3	4	
14. Apakah Anda merasa mual?	1	2	3	4	
15. Apakah Anda muntah?	1	2	3	4	
16. Apakah Anda sulit buang air besar?	1	2	3	4	
Dalam seminggu terakhir					
17. Apakah Anda diare?	1	2	3	4	
18. Apakah Anda kelelahan?	1	2	3	4	
19. Apakah nyeri yang dirasakan mengganggu aktivitas Anda sehari-hari?	1	2	3	4	
20. Apakah Anda sulit berkonsentrasi pada sesuatu hal, seperti membaca koran atau menonton televisi?	1	2	3	4	
21. Apakah Anda merasa tegang?	1	2	3	4	
22. Apakah Anda merasa khawatir?	1	2	3	4	
23. Apakah Anda merasa mudah tersinggung?	1	2	3	4	
24. Apakah Anda merasa depresi?	1	2	3	4	
25. Apakah Anda mengalami kesulitan untuk mengingat sesuatu?	1	2	3	4	
26. Apakah kehidupan keluarga Anda terganggu oleh kondisi fisik atau terapi medis yang Anda jalani?	1	2	3	4	
27. Apakah aktivitas sosial Anda terganggu oleh kondisi fisik atau terapi medis yang Anda jalani?	1	2	3	4	
28. Apakah Anda mengalami kesulitan keuangan akibat kondisi fisik atau terapi medis yang dialami?	1	2	3	4	
29. Bagaimanakah Anda menilai kondisi <u>kesehatan</u> Anda secara keseluruhan selama seminggu yang lalu?					
1	2	3	4	5	6 7
Sangat buruk					Sangat baik
30. Bagaimanakah Anda menilai <u>kualitas hidup</u> Anda selama seminggu yang lalu?					
1	2	3	4	5	6 7
Sangat buruk					Sangat baik

DISCUSSION

Women with advanced stages of cervical cancer were participated to this study. The mean of age is 47.98 ± 8.46 years as the cervical cancer mostly affect middle-age women as the major public health problem in the low-income countries. The majority of those patients were 38.96% on low educational level (elementary) and 15.58% of the subjects were having bachelor degree. Low education level associated with cervical cancer includes risk of age at first sexual intercourse and first pregnancy.⁹

Data showed mostly the QOL of performance status based on ECOG score are between 2 and 3 means those patients has moderately limited on their activity daily living. Based on Lingappanoor et al., quality of life assessment of cervical cancer using ECOG performance status represent good QOL in the low stages of cervical cancer compared to the advanced stages. The subjects were chosen from advanced stages of cancer with indication of nephrostomy tube insertion. This study aims to defined effect of nephrostomy on the quality of life among cervical cancer patients. Majority of the subjects were staged with IIIa and IV stages of cervical cancer. Cervical cancer stages are related to major factor of prognosis and survival especially its staging at the first time of admission.¹⁰

Participants mostly had been received combined therapy of medications, surgery, radiation, chemotherapy, or nephrostomy. Ureteral obstruction due to cervical cancer besides prostate cancer was on of indications for nephrostomy and usually showed better outcome than nephrostomy in any other types of neoplasia. Nephrostomy would permit a urinary diversion that would help release the ureteral obstruction, thus relieving kidney's burden and help alleviate pain. Contraindications to percutaneous nephrostomy were not totally cons. Dialysis and coagulopathy correction should be done prior to nephrostomy performed especially in the patients with metabolic problems and significant electrolyte imbalance.¹¹⁻¹² Physician should know that as cervical cancer getting more advanced, it may decreases the quality of life of the patients.¹³

Quality of life in those patients evaluated using questionnaire of EORTC QLQ-C30 which had been used as standardized QoL assessments internationally. The questionnaire had been validated into Bahasa Indonesia contain 30 question divided into 3 major scales. Highest scores in the

physical scales are sleeping disturbances and diarrhea which interfere the patients' activities. Functional scales showed average score of 46.33 with largest score associated to tense feeling of the patients, with an average scores in Symptoms scales of 52.1. Global health scales assess overall health and quality of life perspective of the patients represent mean score of 55.7. This study revealed an average of 63.1 in overall health status, which means there is an improvement over patient's symptoms resulted from the insertion of nephrostomy, and a poor quality of life with an average score of 48.3 which shows the progression of cervical cancer conditions suffered by patients.

CONCLUSION

In summary, patients with advanced-stage cervical cancer (IIIa, IIIB, and IV), the use of nephrostomy would be indicated for urinary diversion to overcome ureteral obstruction and renal failure. Although insertion of nephrostomy can help alleviate patient's symptoms, the progressive condition of cervical cancer has made the patient's quality of life continue to decline. This study showed poor quality of life in the advanced stages of cervical cancer patients, even with nephrostomy insertion, which we assessed by using Indonesia language validated EORTC QLQ-C30. A better understanding of the complexity of the relationship between patient's quality of life and cervical cancer sequelae in one hand, a well provided information about the use of nephrostomy in the other hand, is necessary to help cervical cancer patients deciding the best consent before any actions taken.

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