EVALUATION OF THE EFFECTIVENESS OF CHEMOTHERAPY DRUGS IN CERVICAL CANCER PATIENTS IN THE EDELWEISS INPATIENT ROOM RSUD ULIN BANJARMASIN

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Abstract: *Cervical cancer is cancer caused by infection with the Human Papilloma Virus (HPV) and one of the treatments is chemotherapy in combination with two or more drugs to increase the destruction of the number of cancer cells. This study aims to determine the patient characteristics, treatment patterns, doses, and evaluating the effectiveness of chemotherapy drugs in cervical cancer patients at the Edelweis Inpatient Installation of RSUD Ulin Banjarmasin. This research is descriptive quantitative research with a cross sectional method. Samples were taken by accidental sampling technique and the total samples were 31 samples. Data collection was carried out using patient medical records. The results of the study included: the characteristics of patients who underwent chemotherapy were at the age of 51-60 years (45.2%); the age at first marriage was mostly at the age of 15-20 years and married once (38.7%); the most stages were stage IIIB (41.9%); The treatment pattern used was a combination of Paclitaxel 230 mg and Carboplatin 450 mg. The effectiveness based on improvement in clinical symptoms in the form of the disappearance of vaginal discharge symptoms (26.9%) and vaginal bleeding symptoms (63%), as well as the decreased scores of pain rating scales. The results showed that chemotherapy was significant in lowering pain scores in cervical cancer patients (p<0.05).*

INTRODUCTION

Cervical cancer is cancer caused by infection with the Human Papilloma Virus (HPV). Most common symptoms were abnormal vaginal bleeding and vaginal discharge (Shrivastava et al., 2015; Saleh et al., 2020). Cervical cancer is a disorder of the female reproductive system and the second malignant tumor with the highest incidence. In Indonesia, 36,633 (9.2%) new cases of cervical cancer were found in 2020 (Globocan, 2020). According to the RISKESDAS 2019 (Basic Health Research Data by the Research and Development Agency of the Ministry

of Health of the Republic of Indonesia) and Target Population Data – Data and Information Center of the Ministry of Health of the Republic of Indonesia, the incidence of cervical cancer in South Kalimantan Province was found with an absolute number of 1,406 patients (Dinas Kesehatan Provinsi, 2019). Meanwhile, the incidence of cervical cancer at RSUD Ulin Banjarmasin for the January-November 2021 period amounted to 493 patients.

The type of cervical cancer treatment undertaken by the patient depends on the type and stage at the time of diagnosis. Once cervical cancer is diagnosed, treatment may involve surgery, radiation therapy, chemotherapy, or a combination. The choice of therapy depends on the stage of disease, lymph node involvement, patient comorbidities, and risk factors for recurrence (Wipperman et al., 2018). In some cases, patients undergo more than one treatment method. Report on Result of National Basic Health (RISKESDAS) 2018 illustrates that most of the population in Indonesia undergoes cancer treatment by surgical methods, which is by 61.8%. Patients also chose other methods for treatment, namely chemotherapy by 24.9%, and irradiation by 17.3% (Pangribowo, 2019).

A descriptive study was conducted at RSUD Abdul Wahab Sjahranie Samarinda from January 2014 to June 2015, which was conducted on 22 cervical cancer patients. Of the chemotherapy treatment patterns based on the selection of types and classes of chemotherapy drugs, the most are carboplatin-paxus chemotherapy drug combinations by 86%, and based on the adverse drug reactions of chemotherapy drugs, the most are the adverse drug reactions of nausea vomiting drugs by 50% (Lantika et al., 2017). A descriptive study conducted at RSUP Dr. Hasan Sadikin Bandung from June 2015 to March 2016, on 110 cervical cancer patients showed results that chemotherapy tends to be more effective in cervical cancer patients with lower stages. In post-chemotherapy conditions, the percentage of patients who were declared to have improved in stages I, II, III and IV were 100%, 96%, 93.9% and 75% respectively (Suwendar et al., 2016).

Treatment of cervical cancer and the dose given to patients varies according to the stage of cervical cancer, weight, and height of the patient which can cause inaccuracy of therapy given to cervical cancer patients. Research on the evaluation of the use of chemotherapy drugs in cervical cancer patients has never been conducted at RSUD Ulin Banjarmasin, South Kalimantan. Therefore, the author will evaluate the use of chemotherapy drugs in cervical cancer patients at RSUD Ulin Banjarmasin. Evaluation of the use of chemotherapy dr theugs includes the pattern, dosage and effectiveness of chemotherapy drugs. The effectiveness of chemotherapy drugs is evaluated based on clinical symptom data and the scores of pain rating scales recorded in the patient's medical record.

RESEARCH METHODOLOGY

The type of research used is descriptive non-experimental research with cross sectional methods. Samples were taken by accidental sampling technique of 31 samples in December 2021. Data collection was carried out using patient medical records who had obtained a Certificate of Feasibility of Research Ethics issued by the Research Ethics Commission of RSUD Ulin Banjarmasin.

Inclusion Criteria: cervical cancer patients who are hospitalized undergo chemotherapy for at least 3 cycles. Exclusion Criteria: patients who cannot communicate well and patients transferred from other hospitals.

RESULT AND DISCUSSION
Respondent Characteristics
The results of the study of frequency distribution of respondent characteristics obtained by researchers are tabulated in Table 1.

Table 1. Frequency Distribution of Respondent Characteristics

No	Characteristics	Category	f	%
1	Age	25-32 years old	1	3,2
		33-40 years old	4	12,9
		41-48 years old	9	29,0
		49-56 years old	12	38,7
		57-64 years old	5	16,1
		Total	**31**	**100,0**
2	The Relationship Between Age and Number of Marriages	15-21 years old and married 1x	12	38,7
		15-21 years old and married ≥2x	10	32,3
		22-28 years old and married 1x	9	29,0
		Total	**31**	**100,0**
3	Stadium	I	5	16,1
		IB	2	6,5
		II	4	12,9
		IIB	7	22,6
		IIIB	13	41,9
		Total	**31**	**100,0**

Based on Table 1 of 31 respondents studied at the Edelweis Inpatient Installation of RSUD Ulin Banjarmasin, it was found that most respondents who suffered from cervical cancer and carried out chemotherapy treatment were at the age of 49-56 years (38.7%), which is an age that is susceptible to cervical cancer. Because the older a person is, the higher the risk of cervical cancer. The increased risk of cervical cancer in the elderly is associated with increased exposure time to carcinogens (around 10-15 years) and the weakening of the immune system due to age (Susanti, 2017; Zhang et al., 2020)

Based on Table 1, it is obtained that the highest age of first marriage is at the age of 15-21 years and married once by 38.7%. Cervical cancer patients who marry once according to theory do not have the potential to get the HPV virus because the patient does not have sexual relations with different partners so they have a smaller risk of getting the HPV virus that results in cervical cancer. However, these patients married at the age of 15-21 years have a greater risk of HPV virus. This is because at the age of <20 years, sexual organs or mucosal cells are immature and still vulnerable to stimulation so they are not ready to receive external stimuli such as chemicals carried by sperm, so that mucosal cells can change nature into abnormal cells that become cancer cells (Trijayanti, 2017). According to the theory, the chances are greater in two marriages, but the results of the study obtained are that at one

marriage, patients can get cervical cancer. This can be caused by several other factors, such as the patient's lifestyle factors, the patient's diet, or the patient's health factors (Lantika et al., 2017; Zhang et al., 2020).

Based on Table 1, it is found that the most stages suffered by cervical cancer patients are stage IIIB as much as 41.9% where cancer metastases spread to the parametrium to the pelvic wall and stage IIB as much as 22.6% where cancer metastases have spread to the tissues around the vagina and cervix, but have not yet reached the pelvic wall (Saleh et al., 2020). There were 5 respondents in Stage I (16.1%), where the cancer was still limited to the cervix. There were 2 respondents at Stage IB (as much as 6.5%), where the spread of cancer can be seen without a microscope with a depth of <4cm or >4cm using chemotherapy treatment. There were 4 respondents in Stage II (12.9%), where the cancer spread out of the cervix (FIGO, 2009).

Treatment Pattern and Doses of Chemotherapy Drugs

The treatment patterns and doses of chemotherapy drugs used by respondents are tabulated in Table 2.

Table 2. Types of Drugs and Doses of Chemotherapy Drugs used by Respondents

Combination of Chemotherapy Drugs	Dose	Number of Patients	%
Paclitaxel-Carboplatin	Paclitaxel (230 mg)-Carboplatin (450mg)	31 people	100

From what is listed in Table 2, the treatment pattern used by cervical cancer patients is combination treatment. Chemotherapy treatment for cancer often uses a combination of two or more chemotherapy drugs. The goal of combination therapy is to use drugs that act on different parts of the cell's metabolic process, thereby increasing the chances of destroying the number of cancer cells. The class of drugs used in chemotherapy treatment for cervical cancer patients at the Edelweis Inpatient Installation at Ulin Hospital Banjarmasin is Carboplatin-Paclitaxel where Carboplatin belongs to the Alkylating agent (Platinum) class of drugs and Paclitaxel belongs to the microtubule inhibitor drug class. The combination of Carboplatin-Paclitaxel is used because Carboplatin works in the DNA synthesis phase (S phase) which changes the structure and function of DNA so that it cannot multiply. Paclitaxel works in the cell division phase (M phase), where the cell cycle is automatically disrupted and induces apoptosis (cell death), so that the combination of Carboplatin-Paclitaxel will strengthen each other and increase the effectiveness of chemotherapy against cancer (Mariani, 2018). These combination is one of the drug of choice for metastatic or recurrent cervical cancer treatment (Kitagawa et al., 2015).

Effectiveness of Chemotherapy Drugs

In this study, the evaluation of the use of chemotherapy drugs was observed based on the effectiveness and adverse drug reactions of chemotherapy drugs. The results of research evaluating the effectiveness of chemotherapy drugs obtained by researchers are tabulated in Table 3 and Table 4.

Table 3. Frequency Distribution of Clinical Symptom Evaluation of Cervical Cancer Patients

No	Clinical Symptom	Category	ƒ	%
1	Patients Experiencing Clinical Symptoms	Vaginal discharge	26	83,9
		Vaginal bleeding	27	87,1
2	Patients Who No Longer Experience Clinical Symptoms After Getting Chemotherapy	Vaginal discharge	7	26,9
		Vaginal bleeding	17	63

Based on the results of clinical symptom evaluation, data on the percentage of patients who experienced clinical symptoms as listed in Table 3 of 31 respondents studied at the Edelweis Inpatient Installation of RSUD Ulin Banjarmasin found that 26 people (83.9%) experienced vaginal discharge symptoms, and 27 people (87.1%) experienced vaginal bleeding symptoms. While the percentage of patients who no longer experience clinical symptoms was obtained that patients who experienced the disappearance of vaginal discharge symptoms as many as 7 people (26.9%), and those who experienced the disappearance of vaginal bleeding symptoms as many as 17 people (63%).

Based on these results, it can be seen that chemotherapy is more effective for eliminating symptoms of vaginal bleeding than for eliminating symptoms of vaginal discharge. This is because chemotherapy drugs attack healthy cells including attacking white blood cells so as to reduce the body's immunity. Low body immunity can cause the body to be easily infected such as vaginal discharge due to bacterial infections or other parasites (Susanti, 2017).

Table 4. Evaluation of The Scores of Pain Rating Scales in Cervical Cancer Patients Before and After Chemotherapy

Stadium	n	Pain Rating Scales		p
		Before Chemotherapy	After Chemotherapy	
I	5	3,6	1,2	0,000
IB	2	4	1,5	0,000
II	4	5	2,25	0,000
IIB	7	5,14	2,57	0,000
IIIB	13	5,53	3	0,006

Based on Table 4, from 31 respondents studied at the Edelweis Inpatient Installation of RSUD Ulin Banjarmasin, it was found that at all stages there was a tendency to decrease the scores of pain rating scales compared to before chemotherapy with a value of p = <0.05 (there were significant differences between the group before and after chemotherapy). Decreased pain symptoms can occur due to the effectiveness of chemotherapy drugs and good treatment with efforts to improve the quality of life of patients, such as intake of nutritious foods or with pain control. Pain occurs in the pelvic area or in the lower abdominal area usually if there is inflammation in the pelvis and if the pain occurs from the waist area down, there may be hydronephrosis (Susanti, 2017; Wipperman et al., 2018). Based on statistical tests, a significant reduction of scores in pain rating scales occurred in stage I, IB, II and IIB patients each with a value of p=0.000 and IIIB with a value of p=0.006. It can be concluded that chemotherapy treatment is effective for lowering pain symptoms.

CONCLUSIONS

The most common characteristics of cervical cancer patients based on age were 49-56 years at 38.7%; based on the relationship between age at first marriage and the highest number of marriages, those aged 15-21 years and married once amounted to 38.7%; and based on stage, the highest number was stage IIIB at 41.9%. The treatment pattern used by cervical cancer patients is a combination treatment, namely Paclitaxel at a dose of 230 mg and Carboplatin at a dose of 450 mg. Effectiveness was evaluated based on improvement of clinical symptoms and the scores from pain rating scales. Clinical symptoms include the disappearance of vaginal discharge symptoms by 41.9% and the disappearance of vaginal bleeding symptoms by 70.9%. In terms of pain scores, chemotherapy was significantly effective in reducing the pain scores in cervical cancer patients ($p = <0.05$).

Acknowledgements

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HALAMAN INI SENGAJA DIKOSONGKAN