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CERVICAL CANCER RISK FACTORS AT HAJI ADAM MALIK GENERAL HOSPITAL MEDAN 2016-2018

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Abstract. The incidence of cervical cancer is still quite high. It is never separated from the risk factors that influence it. Some of them are sexually active, relatively young marital age, have high parity, use of contraception, and smoking can increase a woman's potential for cervical cancer. The aim of this study was to determine the characteristics of patients about the risk factors for cervical cancer in Haji Adam Malik General Hospital, Medan in 2016-2018. This research method uses descriptive observational design with cross sectional using medical record data. The results of this study using consecutive sampling techniques, took 100 samples and obtained several characteristics are age of patients, age of marriage, marriage history, number of parities, use of contraception, and smoking history. From this study it can be concluded that the characteristics of the incidence of cervical cancer in the General Hospital of Haji Adam Malik Medan in 2016-2018 are 50-59 years old, marital age $\leq$ 20 years old, married once, multigravida, uses injection type of hormonal contraception , and not smoking .

Keyword: Cervical Cancer, Characteristic, Risk factor

Abstrak._Angka kejadian kanker serviks masih cukup tinggi. Hal ini tidak pernah lepas dari faktor risiko yang mempengaruhinya. Beberapa dari mereka yaitu aktif secara seksual, usia perkawinan yang relatif muda, memiliki paritas yang tinggi, penggunaan kontrasepsi, dan merokok dapat meningkatkan potensi wanita untuk kanker serviks. Tujuan dari penelitian ini adalah untuk mengetahui karakteristik pasien tentang faktor risiko kanker serviks di Rumah Sakit Umum Pusat Haji Adam Malik, Medan tahun 2016-2018. Metode penelitian ini menggunakan desain deskriptif observasional dengan pendekatan cross sectional menggunakan data rekam medik. Hasil penelitian ini dengan menggunakan teknik consecutive sampling, diambil sebanyak 100 sampel dan diperoleh beberapa karakteristik yaitu umur pasien, usia pernikahan, riwayat pernikahan, jumlah paritas, penggunaan kontrasepsi, dan riwayat merokok. Dari penelitian ini dapat disimpulkan bahwa karakteristik kejadian kanker serviks di Rumah Sakit Umum Pusat Haji Adam Malik Medan tahun 2016-2018 adalah umur 50-59 tahun, usia perkawinan $\leq$ 20 tahun, menikah sekali, multigravida, menggunakan kontrasepsi hormonal jenis injeksi, dan tidak merokok._

Kata Kunci:Kanker Serviks, Karakteristik, Faktor Risiko

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1   Introduction

Cancer is a general term for a group of diseases marked with abnormal proliferation of cells which couldaffect adjacent tissues or metastate to other organs [1]. The cells in our body possess their own roles. The cells will divide regularly and will die when there are damages, then replaced by new ones. When the cells proliferate out of control, it is inferred as cancer. Cancerous cells will keep on dividing into new ones uncontrollably, then causing problems at the origin of the cells [2].

Women have sensitive genital organs which are prone to cancer, such as the cervix. Cervical cancer is a malignant tumor originating from the cervix (an entrance to the uterus). It is located between the uterus and the vagina [3]. Generally, according to GLOBOCAN 2012 cervical cancer was on the 7th position of most common diseases in the world with an incidence of 528.000 (7,9 per 100.000 persons) andmortality rate of 266.000 [4].

A research on women aged 30-50 years in Rwanda, Africa by the year2010-2013 found that the risk factors affecting the incidence of cervical cancer were: age(30-35 years old), being married, lack of education, middle socio-economic status, >5 times gestation, 4-5 times delivery, primigravida on ages 20-35, ≤5 years of oral contraception use, and first sexual intercourse on age ≥20 years [5].

On the other side, a research on women in dr. Pirngadi general hospital by the year 2017 showed that the risk factors of cervical cancer were: first sexual intercourse on young ages, high parity, oral contraception use, family history, and the use of feminine wash which posted 8.4 times greater risks compared to the ones who do not use the cleanser [6]. Based   on   the background above, it was found that there were so many differences in results related to risk factors of cervical cancer such as age, lifestyle smoking or not, use of contraception, and the others. In this case, it attracted the interest of researchers to research about the characteristics that affect the incidence of cervical cancer at Haji Adam Malik General Hospital by the year 2016-2018.

2   Method

This research uses descriptive observational design with cross-sectional study. It was carried out with retrospective method, reflecting on the collected data from medical records of patients diagnosed with cervical cancer at Haji Adam Malik General Hospital, Medan by the year 2016-2018. The study aims to find the characteristics of risk factors which were accounted as independent variables to the incidence of cervical cancer (dependent variable).

This research was implemented from July to October 2019. The population consisted of all patients diagnosed with cervical cancer in Haji Adam Malik General Hospital, Medan by the year 2016-2018. The samples were collected with consecutive sampling which is a technique

that gather samples, medical records of cervical cancer by the year 2016-2018, until the required number from Slovin's formula was fulfilled.

Determination of sample size in research use the formula :

$$n = \frac{N}{1 + Ne^2}$$

Information :

n   = number of samples

N   = total population (644 woman for cervical cancer)

d   = fault tolerance (0,1)

Then, the number of samples needed in this study are :

$$n = \frac{644}{\{1 + (644 \times 0,1^2)\}} = 86,55 = 87 \; samples$$

Based on the calculation, the number of samples needed in this study were 87 subjects. However this study round up the samples to 100 patients and data are analyzed with statistical programs and presented in tabular form.

3   Result

This research was carried out in the Medical Record Room at the Haji Adam Malik General Hospital, Medan. This study began in August and ended in September 2019. Based on the results obtained from medical records of patients cervical cancer cases at Haji Adam Malik General Hospital in Medan in 2016 - 2018, there were 644 population diagnosed cervical cancer. The characteristics in this study include age of patients, age of marriage, marital history, parity, contraception history, and smoking history can be seen in the table below :

Table 1 Characteristics of Cervical Cancer Frequencies

Characteristics	(n)	(%)
Age (years)		
≤ 20	0	0
21-29	3	3,0
30-39	10	10,0
40-49	32	32,0
50-59	37	37,0
≥ 60	18	18,0
Age of Marriage (years)		

≤ 20	63	63,0
> 20	37	37,0
Marital History		
Married once	80	80,0
Married >1 time	20	20,0
Parity		
Nuligravida	0	0
Primigravida	5	5,0
Multigravida	74	74,0
Grandemultigravida	21	21,0
Contraception History		
Pil (Oral)	18	18,0
Injection	23	23,0
Implant	7	7,0
IUD	9	9,0
Tubectomy	8	8,0
Not use	35	35,0
Smoking		
Yes	17	17,0
No	83	83,0

In this study, it was found that out of 100 cervical cancer patients, the highest proportion was in the group aged 50-59 years old as many as 37 patients (37.0%), age of marriage in the group aged ≤ 20 years as many as 63 patients (63,0%), marital history in the group married once as many as 80 patients (80,0%), parity in the group multigravida as many as 74 patients (74,0%), contraception history based on its use is in the group with uses contraception as many as 65 patients (65,0%) and based on typical contraception is in the group hormonal contraception uses injection as many as 23 patients (23,0%), and the highest prevalence for smoking in the group not smoking as many as 83 patients (83,0).

4   Discussion

4.1   Age of Patients in Cervical Cancer

Between the incidence of cervical cancer with a woman's age have a very close relationship to the occurrence of cervical cancer. This can be proven from research conducted in the United States in 2015 recorded 12,900 women in the United States were diagnosed with cervical cancer with a peak age of cervical cancer is 47 years. About 47% of women with invasive cervical

cancer are < 35 years old at the time of diagnosis. Whereas women > 65 years old were 10% of other cervical cancer patients [7].

These result study correspond to the research at Dr. Moewardi General Hospital by the year 2013 with case-control design utilizing consecutive sampling technique which found that out of a total of 82 samples (41 suffered from cervical cancer and another 41 were controls), 25 patients (60.9%) diagnosed with cervical cancer were ≥ 50 years old and the rest 16 women (39.1%) were < 50 years old [8]. Research at RSU. Prof. Kandou Manado in 2014 with a cross sectional case control design, that found 90 samples (45 suffered from cervical cancer and another 45 were controls), 19 patients (42.2%) with cervical cancer occurred in the age group 46-55 years, then followed by 10 women (22.2%) in the 36-45 year age group [9].

It takes 15 to 20 years for cervical cancer to develop in women with a normal immune system, whereas in women with a weak immune system it only takes 5 to 10 years. This shows that the progress of cervical cancer is not in a short time. So that in this case shows the increasing age of the woman will increase the risk of cervical cancer [10].

4.2   Age of Marriage in Cervical Cancer

Having sex at an early age can affect the occurrence of cervical epithelial tissue damage and can get worse leading to abnormality cells and abnormal growth. Women who have been active in sex under 17 years have a 3 times greater risk of cervical cancer compared with women who do not have sex at that age [11].

The research at Dr. Kariadi General Hospital Semarang in 2014 on 70 samples which found that 45 women (64.2%) married by ages ≤ 20 were diagnosed with cervical cancer and only 3 women (4.3%) were not. Whereas on women with age of marriage > 20 years, only 5 (7.14%) were diagnosed with cervical cancer and the other 17 (24.3%) were not [12].

4.3   Marital History in Cervical Cancer

A history of sexual behavior has strongly related to cervical cancer. Women with 5 or more sexual partners are reported to have a high proportion of sexually transmitted infections and abnormal Pap smear findings [13]. It was also found that non-malignant cervical cancer (OR = 1.82) and invasive cervical carcinoma (OR = 1.77) were found in women with many sexual partners so that in this case there was a significant increase in risk in individuals with many sexual partners [14].

A woman can be infected with HPV even only having one sexual partner. Women also seem to be at a higher risk of developing cervical cancer if their male partner have had many sexual partners with cervical cancer [15]. The study at RSUD ULIN Banjarmasin in August - September 2014 with a cross sectional study design of 90 women with reproductive organ cancers, its found that 52 samples (57.8%) had cervical cancer. Women who married only once

obtained a percentage 51.1%, while women who married 2-3 times only obtained a percentage 6.7% [16].   It was found that there was no causal relationship in women who had many partners with the incidence of cervical cancer [17].

4.4   Parity in Cervical Cancer

Women who had high parity can cause trauma in the birth canal and can cause abnormal cells in the cervix. The number of labor performed normally (vaginally) can cause abnormal cell from the epithelium in the cervix and can develop into malignancy [18].

The research at Al-Ihsan Regional Hospital Bandung period January 2015 - June 2017 with a cross sectional study design using admission sampling technique, obtained a sample of 82 patients diagnosed with cervical cancer and obtained 52 women (63.4%) who gave birth as ≥ 3 times, whereas only 30 women (36.6%) gave birth < 3 times [19]. While the research at Dr. Pirngadi hospital Medan by the year 2011-2012 on 104 samples suffering from cervical cancer, as many as 73 patients (70.2%) were included multipara group, 28 (26.9%) were grandemultipara, and only 3 (2.9%) were primipara [20].

4.5   Contraception History in Cervical Cancer

Using oral contraceptives can increase the risk of cervical cancer because it contains estrogen and progesterone hormone which are naturally present in a woman's body so that it can cause the potential to change the susceptibility of cervical cells to persistent infections with high-risk HPV types [21]. The thickness of cervical mucus due to the using of oral or injections hormonal contraception increase the occurrence of cervical cancer. This is because the thickness of the mucus will prolong the existence of a carcinogenic agent in the cervix that is carried through sexual contact, including the presence of the HPV virus that causes cervical cancer [22]. Hormonal contraception suspected cause folic acid deficiency which reduces mutagen metabolism, while estrogen is likely to be one of the co-factors that can make HPV DNA replication a trigger for cervical cancer and increase the risk of cervical cancer. The use of hormonal contraception for 10 years can increase the risk up to 2 times [22,23].

The research on Sukoharjo Regency General Hospital in September - October 2013 with case-control design and retrospective method on 64 samples diagnosed with cervical cancer (32 suffered from the cancer and another 32 were controls). Out of 32 cervical cancer patients, 24 women (75.0%) used contraception and only 8 (25.0%) did not. Out of 24 women used contraception, as many as 18 women (69.2%) used hormonal contraception. The most common type of contraception utilized was injection, as many as 12 women (60%), while 5 (38.5%) consumed contraceptive pills, and only 1 (11.1%) used contraceptive implant [24].

4.6   Smoking History in Cervical Cancer

Nicotine substance (a toxic substance found in tobacco or cigarettes) contained in the blood can be a triggers of cervical cancer. The process of nicotine in triggering cervical cancer is very simple. Every cigarette smoke that enters the body will immediately enter the bloodstream. In the blood will spread throughout the body, including the cervix which is very sensitive to nicotine. The nicotine substances trigger abnormal cell growth [25,26]. Exposure to cigarette smoke can also increase the risk of cervical precancerous lesions 4.8 times compared who not exposed to cigarette smoke [27].

The research at Dr. H. Abdul Moeloek General Hospital Lampung in 2014 with cross-sectional design and quota sampling technique on 82 samples. There were 46 women diagnosed with cervical cancer and the highest prevalence was found in the group who did not smoke, as many as 41 persons (54.7%) out of 75 women. Whereas there were only 5 women (71.4%) out of 7 on smoking group. No significant relationship was found between smoking and the incidence of cervical cancer [28]. In this study, found more women who do not smoke than woman who smoke because in social life especially Indonesia rarely found a place to live for women who smoke [29].

5   Conclusion

From this research, a summary could be drawn that the characteristics of risk factors cervical cancer at Haji Adam Malik General Hospital Medan by the year 2016-2018 are age 50-59 years, age of marriage $\leq$ 20 years, being married once, multigravida, injection type of hormonal contraception use, and not smoking.

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