Cervical Cancer and Factors Affecting It
(Control Case Study at Dr. Pirngadi Hospital, Medan)

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Abstract:

The aim of this study is to analyze risk factors for cervical cancer in Dr.Pirngadi Hospital, Medan in 2017. This type of research is an analytical study with case control study design to assess the role of risk factors in the incidence of cervical cancer in Dr. Pirngadi Hospital, Medan. Bivariate analysis in this study using Chi Square test with 95% confidence level. If the result of statistical calculation p <0,05 then there is significant effect. Chi Square statistical test results obtained p value 0,000 or a <0.05, then H0 rejected and Ha accepted, which can be concluded that there is a significant effect between the first marriage to cervical cancer with OR of 8,679. Chi Square statistical test results obtained p value 0.005 or a <0.05, then H0 rejected and Ha accepted, which can be concluded that a significant effect between smoking to cervical cancer with OR of 3.285. Chi Square statistical test results obtained p value 0.002 or a <0.05, then H0 rejected and Ha accepted, which can be concluded that a significant effect between contraception to cervical cancer with OR of 3.345. The result of multivariate analysis showed that the most dominant variable affecting cervical cancer was the first married age variable with OR value of13.878 which can be interpreted that the first age of sexual intercourse had 13,878 times more effect the emergence of cervical cancer. While the contraceptive variable also has a high OR value of 5,643 which can be interpreted that smoking has 5,643 times more likely to affect the emergence of cervical cancer.

Key words: First age of marriage, smoking, hormonal contraception, cervical cancer

INTRODUCTION

In Asia Pacific, every year there are about 266,000 cases of cervical cancer, 143,000 of whom die in productive age. Throughout the world, every year there are approximately 400,000 new cases of cervical cancer, 80 percent of which occur in women living in developing countries. (Ariani, 2015).

In Indonesia, every day, an estimated 40-45 new cases and about 20-25 people died from cervical cancer. Means every month Indonesia loses 600-750 women due to cervical cancer. The mortality rate of cervical cancer in Indonesia is high and is largely due to delays in diagnosis. Usually the cancer has spread to other organs in the body when a person checks her condition. (Hasan Rohan, 2017)

The incidence of cervical cancer according to estimates DEPKES RI (Ministry of Health), 100 per 100,000 population per year, while from laboratory data of anatomical pathology throughout Indonesia, the frequency of cervical cancer is highest among cancer in Indonesia. (Romauli, 2017).

Women prone to cervical cancer, usually between the ages of 35-50 years, especially those who are sexually active before the age of 16 years. Sexual intercourse at an early age may increase the risk of cervical cancer two times higher than those who have sex after the age of 20 years. Cervical cancer is also associated with the number of sexual partners, the more partners sekusal owned by a woman, the increased risk of cervical cancer. (Tilong, 2012).

Tobacco smoking is the leading cause of cancer-related deaths worldwide. It has been estimated that tobacco causes approximately 25% of all cancers in men and 4% in women. Women who smoke are about twice as likely to develop cervical

cancer. A by-product of tobacco has been found in smoking female cervix. Researchers believe that this substance damages the DNA of cervical cells and may contribute to the of cervical cancer. Smoking also makes the immune system less effective in fighting HPV infection (American Cancer Society, 2012).

In the last three decades, cases of cervical cancer increased at a younger age or under 30 years (Samadi, 2011). Based on Riskesdas data (2013), the prevalence of cancer in Indonesia is 1.4 per 1000 population, whereas cervical cancer is cancer with highest prevalence in Indonesia equal to (0,8%) or about 98,692 population. In East Java Province, the prevalence of cervical cancer is 21,313 (Pusdatin, 2015).

Data obtained from Dr. Pirngadi Hospital, Medan from January to December 2016, found patients with cervical cancer as many as 149 people. With outpatient details of 92 people, and inpatient of 57 people. The aim of this study to analyze risk factors for cervical cancer in RSUD Dr. Pirngadi MedanTahun 2017.

RESEARCH METHODS

The type of this research is analytical research with case control study design to assess the role of risk factors in the incidence of cervical cancer in Dr. Pirngadi Hospital, Medan.

This research was conducted in Dr. Pirngadi Hospital, Medan. The selection of research sites is based on the consideration that the hospital has a good medical record data and in order to meet the number of samples which will facilitate the collection of required data is available sufficiently, and is a reference hospital for the region of North Sumatra. The research instrument used in this research is patient patient record data.

RESULTS AND DISCUSSION

The Influence of First Age Married on Cervical Cancer

Age of first time marriage is one important factor. Where the younger the age of a woman sexual intercourse the higher the risk that will be borne, because the occurrence of cervical cancer with the latency of cervical cancer takes 30 years since the first sexual intercourse, so first sexual intercourse is considered the beginning of the beginning of the process of cervical cancer on women.

Chi Square statistical test obtained p value 0,000 or value α <0.05, then H0 rejected and Ha accepted, which can be concluded that there is a significant influence between the first marriage to cervical cancer with OR of 8,679. Researchers assume that the first marriage age very affects the occurrence of cervical cancer, especially at a young age. At that age the cervix is immature. In addition, the hymen also has not been able to withstand viral infections through sexual contact. As is known, cervical cancer is caused by human papilloma virus (HPV) virus that is transmitted through sex. This type of cancer is also the second leading cause of death in women after breast cancer. However, cervical cancer can be prevented by HPV vaccine delivery.

Cervical cancer tends to arise when sexual intercourse begins at age less than 17 years. It is further explained that age between 15-20 years is a vulnerable period. Cervical epithelium in adolescent women is particularly susceptible to sexually transmitted carcinogenic substances compared to adult female cervical epithelium. In the latent period between the first coitus and the occurrence of cervical cancer is more than 30 years.

According to the researcher's assumptions, at that age, the condition of a teen's uterus is very sensitive. Cervical in adolescents are more susceptible to carcinogenic stimuli because there is an active process of squamous metaplasia, which occurs within the transformation zone during the

progression period. This squamous metaplasia is usually a physiological process, but under the influence of carcinogens. Cell changes can occur resulting in a non-pathologic transformation zone. This unusual change initiates a process called cervical intraepithel neoplasia (Cerviv Intraepithel Neoplasma = CIN), which is a pre-invasive phase of cervical cancer.

To prevent this deadly disease, health experts advise every woman to get HPV vaccination since the age of 10 years. In addition, do also IVA examination or pap smear in order to detect this cancer from an early age. According to dr. Andrijono, HPV vaccination will effectively decrease the risk of cervical cancer by 90 percent. In addition, some other diseases caused by HPV like vaginal cancer, anal cancer, oral cancer, tongue cancer, vulvar cancer, and throat cancer can also be prevented by this vaccination.

Effect of Smoking on Cervical Cancer

Smoking is one of the habits that can cause cervical cancer although in general the cause of cervical cancer can be caused by papilloma virus or HPV, but with smoking can cause and increase the risk of cervical cancer. Women with nicotine concentrations of cervical cervix are 56 times higher than in serum. The direct effect of such material on the cervix will decrease the local immune status so it can become a carcinogen. Chi Square statistical test results obtained p value 0.005 or α <0,05, then H0 rejected and Ha accepted, which can be concluded that there is a significant influence between smoking to cervical cancer with OR of 3.285. Researchers assume that for women smoking is a habit that is difficult to leave especially for those who are addicted to nicotine. When smoking, every suction will be many cells and tissues in the burning so that it is damaged. Prolonged use may result in permanent damage to certain tissues. The body cells have properties that are vulnerable to damage when confronted with foreign bodies.

Unlike the hosted virus. When cells in the cervix begin to experience cellular erosion, and the body begins to show symptoms of cervical cancer.

Unhealthy lifestyle can cause health problems including cancer. Active smokers are at twice the risk of cervical cancer than non-smokers. Cigarette smoking causes 15.6% of cervical cancer reported through British cancer research. The content of addictive substances in cigarettes leads to cervical cancer. This is probably caused by tobacco-containing carcinogens, whether smoked as cigarettes or chewed. In women smokers the concentration of nicotine on cervical sap is 56 times higher than in serum. The direct effect of such material on the cervix will decrease the local immune status, so it can be a co-carcinogen.

The content of nicotine in cigarette smoke into the mucus that covers the cervix thereby decreasing the natural resistance of cervical cells to abnormal changes. These chemicals can damage DNA in cervical cells and contribute to the development of cervical cancer. In addition, smoking actively or passively decreased the immune system. A decreased immune will accelerate the growth of HPV as a cause of precancerous cervical lesions.

Smoking can decrease the immune system. There are many studies that suggest the relationship between smoking habits and increased risk of contracting cervical cancer. One of them is research conducted at the Karolinska Institute in Sweden and published in the British Journal of Cancer in 2001. According to Dillner, research that led the research, nicotine substances and other "toxins" into the blood through cigarette smoke, the occurrence of cervical neoplasia or the growth of abnormal cells in the uterus. Cervical neoplasia is an early condition of cervical cancer in the body (Ariani, 2015).

The Effect of Hormonal Contraceptives on Cervical Cancer

Oral contraceptive use shows an increased risk The long-term use of hormonal contraceptives increases the risk of cervical cancer, and 10-year use increases risk twice (Laila, 2008).

Chi Square statistical test results obtained p value 0.002 or α <0.05, then H0 rejected and Ha accepted, which can be concluded that there is a significant influence between contraception to cervical cancer with OR of 3.345. Researchers assume that the use of hormonal contraceptives in the long run is very risky to cause the incidence of cervical cancer.

In hormonal contraceptives contain female hormones that affect the hormones estrogen and progesterone. These hormones can alter the susceptibility of cervical cells to HPV infection. Thus making HPV becomes more easily developed in cervical cells which can then develop into cancer cells.

In an analysis of epidemiological studies found that the longer and more frequently a woman using hormonal contraceptives, can increase the risk of cervical cancer. In a 2002 report by the International Agency for Cancer Research which is also part of the World Health Organization, found a relation between hormonal contraception and the risk of cervical cancer.

According to the researchers' assumptions, birth control pills contain estrogen and progesterone, which hormones function to influence the process of fertilization. When taking birth control pills, the mouth of the uterus will produce more mucus that makes sperm cells unable to enter the oviduct so that the fertilization process can not occur. In addition, the intake of hormones consumed in the form of birth control pills has manipulated the body that women are pregnant. So when sperm cells enter, ovum cells are not released and fertilization does not occur. The use of birth control pills that are not in accordance with the rules, and not balanced by providing balanced nutrition to the body will increase the risk of cancer.

Especially if less able to maintain the cleanliness of female organs. At humid temperatures, viruses, fungi, and bacteria are very easy to grow and spread. Long-term infection can lead to cancer. In addition, hormonal changes will affect the cell regeneration process. If the consumption of birth control pills are not matched by changes in healthy lifestyle then it is possible to regenerate cells can not run, so that the damaged ovum cells become a source of disease in the body.

The Variables that Most Affect against Cervical Cancer

Multivariate analysis obtained the most dominant variables affecting cervical cancer is the first married age variable with an OR of 13.878 which can be interpreted that the first age of sexual intercourse has 13,878 times more affect the emergence of cervical cancer. While the contraceptive variable also has a fairly high OR value of 5,643 which can be interpreted that smoking has 5,643 times more likely to affect the emergence of cervical cancer. Accordance with research conducted by Setyarini (2009) which states there is a relationship between the use of hormonal contraceptives in the long> 4 years with the incidence of cervical cancer. Similarly, studies conducted by Parwati (2015) suggesting a relationship between hormonal contraceptive use (> 5 years and <5 years) increased the risk of pre-cancerous cervical lesions compared with those not using hormonal contraceptives. It can be concluded that the variable "age first" sexual intercourse and contraceptive variables are the main factors causing cervical cancer.

Sondang and Dian studies (2014) showed that there was a significant relationship between the use of Hormonal contraceptives and the IUD with the incidence of cervical cancer, with OR: 9.00 and 95% CI = 2.43-33.24, meaning that respondents using hormonal contraceptives and the IUD is a risk factor. This means that someone who uses Hormonal and IUD contraceptives will be 9 times more likely to develop

cervical cancer than someone who does not have a contraceptive.

CONCLUSION

From the results of the above research, as for the findings of the conclusions obtained is significantly cervical cancer is affected by the first age at marriage, smoking, and hormonal contraception.

Dr. Pirngadi Hospital, Medan is expected to continue to improve services in cervical cancer and contribute in the prevention of cervical cancer.

It is hoped for further researchers to be able to conduct research with different and more in-depth research methods, such as cohort methods and different variables related to this research.

REFERENCES

1. Ariani Sofi, (2015), Stop Kanker, Yogyakarta : Istana Media
2. Aprilia Adys, Surya Wijaya I GdeNgurah Harry (2016) Profil Kanker Servik Pada Wanita Dengan Usia Dibawah 40 Tahun du RSUP Sanglah Denpasar Periode Juli 2013 - Juli 2014. E-Jurnal Medika, Vol 5 No 11, November 2016.
3. Chadza E, Ellen Chirvwa, Alfred Maluwa, et al, 2012, Factors that Contribute to Delay in Seeking Cervical Cancer Diagnosis and Treatment among Women in Malawi, Health, Vol 4, No 11, p. 1015-1022.
4. Diananda, R., 2009. Kanker Serviks: Sebuah Peringatan Buat Wanita. In: Diananda, R. Mengenal Seluk-Beluk Kanker. Yogyakarta: Katahari.

5. Emilia Ova, 2010, Bebas ancaman kanker serviks, Media pressindo, Yogyakarta.

6. Giambi C.,et al. 2013. A crosssectional study to estimate high-risk human papilloma virus prevalence and type distribution in Italian women aged 18–26 years. BMC Journal. 13,74

7. Hasan Rohan Hasdiansah (2017). Buku Kesehatan Reproduksi : Malang : Intimedia

8. Ibrahim A, VibekeRasch, EeroPukkala, Arja RA, (2011), Predictors of Cervical Cancer being at An Advanced Stage at Diagnosis in Sudan, International Journal of Women's Health, (3):385-389.

9. Indra Utama Bobby &NugrohoTaufan (2014). Masalah Kesehatan Reproduksi Wanita : Yogyakarta : Nuha Medika

10. Notoatmodjo, S, (2010), Metodologi Penelitian Kesehatan, Jakarta : Rineka Cipta

11. Nugroho. (2010). Deteksi Kanker Serviks Dengan Metode Iva. Jakarta: Niaga Swadaya.

12. Kementerian Kesehatan RI, Semester I (2015), Buletin Jendela Data dan Informasi Kesehatan,. Jakarta.

13. Kementerian Kesehatan RI, Semester II (2012), Buletin Jendela Data dan Informasi Kesehatan,. Jakarta

14. Louie KS., Sanjose S., dkk. 2009. Early Age at First Sexual Intercourse and Early Pregnancy are Risk Factors for Cervical Cancer in Developing Countries. British journal of Cancer.[Online] 100, 1191–1197.

15. Romli M. I, dan Wawang S. S. 2011. Hubungan Antara Perempuan Perokok pasif Dengan Gambaran Hasil Pap Smear di Yayasan Kanker Indonesia, Jawa Barat, Periode April-Mei 2011. Prosiding SnaPP 2011 Sains, Tekhnologi, dan Kesehatan

16. Romauli Suryati &Vindari Anna Vida (2017). Kesehatan Reproduksi, Yogyakarta : Numed

17. Sudigdo Sastroasmoro, Ismael Sofyan (2016), Dasar-dasar Metodologi Penelitian Klinis. Jakarta : Sagung Seto.

18. Sogukpinar N.,et al. (2013). Assessment of Cervical Cancer Risk in Women between 15 and 49 Years of Age: Case of Izmir . Asian Pacific Journal of Cancer Prevention, Vol 14 : 2119 – 2125

19. Syatriani Sri, Faktor Risiko Kanker Serviks di Rumah Sakit Umum Pemerintah Dr. Wahidin Sudirohusodo Makassar, Sulawesi Selatan, Jurnal Kesehatan Masyarakat Nasional, Vol 5, No 6, Juni 2011

20. Tilong Adi T,(2012) Bebas Dari Ancaman Kanker Serviks. Yogyakarta : Flash Books

21. Uysal Aynur, Birsel Aylin, Knowledge about Cervical Cancer Risk Factors and Pap Testing Behaviour among Turkish Women, Asian Pacific Journal of Cancer Prevention, Vol 10, 2009.

22. Widyastuti Y, 2009, Kesehatan Reproduksi, Fitramaya, Yogyakarta.

23. Wiebe Ericka, dkk (2012), Cancer of The Cervix Uteri, International Journal of Gynecology & Obstetrics, 2012.

24. Wijaya, D. (2010). Pembunuh Ganas itu bernama Kanker Serviks. Yogyakarta: Sinar Kejora.

25. Yuniar Isma, dkk (2009) Faktor-faktor yang Mempengaruhi Kejadian Kanker Serviks di Puskesmas Karanganyar. Jurnal Ilmiah Kesehatan Keperawatan , Volume 5, No 2, Juni 2009.