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Epidemiology of Ca Mammae Using Surveillance Data in Southeast Sulawesi, Indonesia

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Abstract.
Breast cancer is the 2nd most popular type of cancer with the highest percentage of new cases in the world with 2,093,876 sufferers (12.3% of the total cancer cases in the world). It is estimated that around 2.1 million women in the world suffer from breast cancer every year, of which around 627,000 women die from breast cancer. This study uses various data from the Indonesian government bodies. Data on breast cancer cases was obtained from the Southeast Sulawesi Provincial Health Office and the Bahteramas Hospital from 2017 to 2020. The data was the annual health profile published by the Bahteramas Hospital, Southeast Sulawesi Province. The findings were presented in a figure format. The conclusion is that most breast cancer patients are over the age of 30 years with a distribution that tends to increase every year. The prevalence of breast cancer cases from 2017 to 2020 has significantly increased, not only in the number of cases but also the death rate was also increasing.

Keywords: Ca Mammae, Southeast Sulawesi, Indonesia

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1. INTRODUCTION

The body text starts with a standard first-level Breast cancer is the most diagnosed cancer in women in the world. It is the 2nd largest cancer with percentage of new cases in the world reached up to 2,093,876 sufferers (12.3% of the total cancer cases in the world [1]. It is estimated around 2.1 million women in the world suffer breast cancer every year. There are around 627,000 women die because breast cancer (WHO, 2018). Breast cancer is found in one out of four cancer diagnoses women in the world and causes 15% of deaths from cancer in women [2].

In Asia, the prevalence of breast cancer is lower than in western countries, but the mortality rate is higher than in western countries [3]. In Asia, it was estimated at 404.000 cases in 2012 with the prevalence rate of 30 per 100.000 diagnoses and about 600.000 new cases of breast cancer were found (39% of the world's total new cases of breast cancer) [4]. The largest breast cancer cases in Asia are in China (46%), Japan (14%), and Indonesia (12%).

In Indonesia, breast cancer has a prevalence of 33% [5]. Breast cancer has the highest prevalence in women with a case finding of 42.1 patients per 100.000 population and a mortality rate of 17 deaths per 100.000 patients [6].

The cause of breast cancer is not clearly known yet until now but there are many risk factors associated with the occurrence of the cancer including age over 55 years, obesity, smoking, genetic factors, and hormonal factors. Hormonal risk factor in breast cancer is associated with the presence of the hormone estrogen. Estrogen is a hormone that plays a role in the growth and development of female sexual organs. This hormone can act as a promoter of breast cancer [7].

The magnitude of the problem regarding breast cancer can also be seen from the number of breast cancer cases found in Bahteramas Hospital, Southeast Sulawesi Province. The number of breast cancer cases in the hospital is quite large with the high prevalence rate every year. The number of breast cancer cases at the referral center hospital for Southeast Sulawesi Province has increased. This study objective is to determine the spread of breast cancer cases and provide case predictionsfor furtherrecommendations to prevent and control of breast cancer.

2. METHODOLOGY

Southeast Sulawesi Province is in an area of the southeastern peninsula of the island of Sulawesi and the surrounding large and small islands (e.g., Muna, Buton, Wawonii, Kabaena and TukangBesi Islands in the Banda Sea). Southeast Sulawesi has a land area of 38,067.70 km2 or 3,067,700 ha and an estimated marine area of 110,000 km2 or 11.000.000 ha. It is in the southern part of the equator, extending from north to south between 02^o 45'-060 15' South Latitude and stretching from west to east between 120^o 45'-124^o 30' East Longitude. Data in 2020, the population of Southeast Sulawesi is 2.624.875 people.

This study used various data from the Indonesian Government. Data on breast cancer cases was obtained from the Southeast Sulawesi Provincial Health Office and Bahteramas Hospital from 2017 to 2020. The data was the annual health profile published by the Bahteramas Hospital, Southeast Sulawesi Province. Research findings are presented in figure format

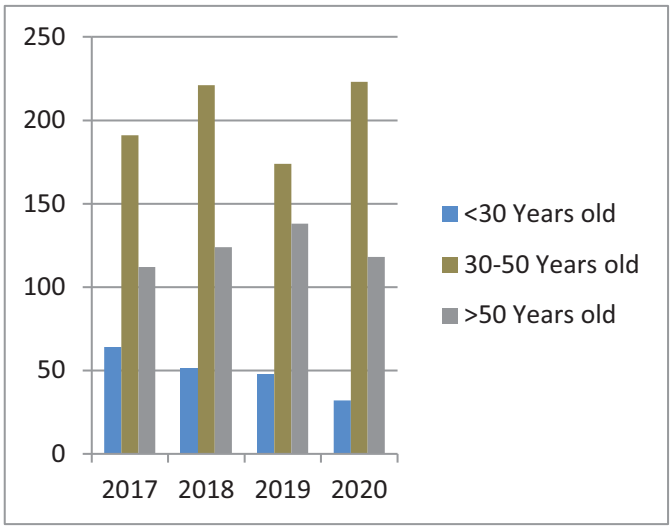

Figure 1: Number of cases by Age.

3. result of the study

The results showed that based on the age from 2017 to 2020, the distribution of patients with breast cancer was morefound at above 30 years old. (Figure 1).

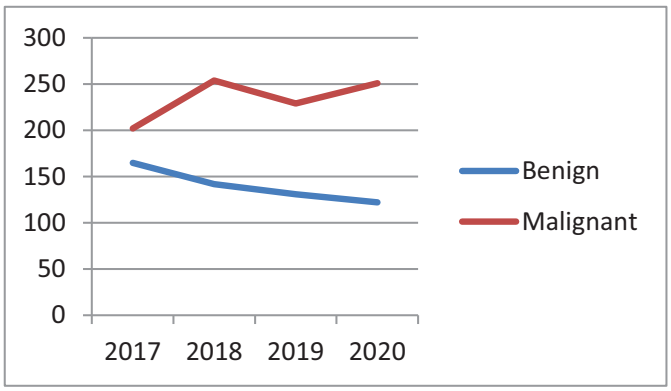

Figure 2: Number of cases by type.

The results showed that the distribution of breast cancer for the benign category seemed to decrease every year and for the malignant category there was a change every year and it tended to increase.

Figure 3 showed that in 2017 the findings of the prevalence of breast cancer were 373 cases with a death rate of 2 cases.In the year 2018, the prevalence were 396 cases with a mortality rate of 4 cases.There were 360 cases in 2019 with a death rate of 10 cases. While in 2020, the breast cancer cases were 373 with a death rate of 15 cases. This means that the prevention of breast cancer has not shown maximum results..

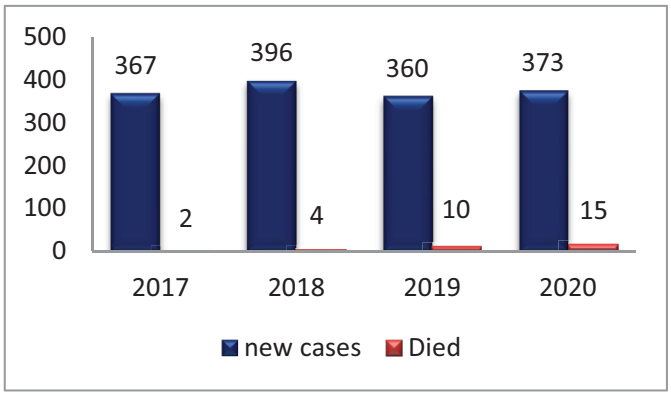

Figure 3: Number of cases by year.

4. DISCUSSION

The breast cancer cases were dominated by those aged over 30 years. It indicates that in the age range of 30-50 years, there is a high risk of breast cancer. Research by Handayani indicated that the longer a person's age, the possibility of genetic damage (mutations) also increases. In the age 30-39 years, the risk of cancer is 1 out of 233 people or about 0.43%. When a woman reaches her 60s ages, the risk jumps to 1 out of 27 or nearly 4% [8].

Some research results reported that the risk of breast cancer / tumor increases with age, the possibility of breast cancer developing at the age of over 40 years. The researchresultin Indonesia was reported that the most breast cancer sufferers were at the age of 40-49 years. In the Western countries, it was usually at the post-menopausal age [9]. Research by Sukmayenti found that there was a relationship between respondent's age and the prevalence of breast cancer, where respondents with a high-risk age category have a tendency of 18.5 times to develop breast cancer compared to respondents with a low-risk age category [10]. The absolute risk of developing breast cancer over a given decade. The age factor really determines how big the risk of getting breast cancer is. Women who are over 40 years of age have a greater probability of getting breast cancer and this risk will increase until the age of 50 years and after menopause. So, the older the woman, the higher the risk of developing breast cancer. On the other hand, the younger the woman, the lower the risk of developing breast cancer.

5. CONCLUSION

Most breast cancer patients are over 30 years old with a distribution that tends to increase every year. The incidence of breast cancer from 2017 to 2020 has experienced a significant increase in cases and not only the number of cases, but the death rate due to breast cancer is also increasing.

6. ACKNOWLEDGMENTS

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