

# Jurnal Kesehatan Metro Sai Wawai

Journal homepage https://ejurnal.poltekkes-tjk.ac.id/index.php/JKM

2657-139 ISSN Prin 19779-469

Volume 17, No. 2, December 2024, 108-117. DOI: https://doi.org/10.26630/jkmsw.v17i2.4985

Original Article

# Studies Literature: Connection Style Life with Incident Breast Cancer

Studi Literatur: Hubungan Gaya Hidup Dengan Kejadian Kanker Payudara

### Ria Ayu Marvina

Mother and Child Clinic in Cibinong, Indonesia

### **Article Info**

Received December 12, 2024, Revised December 16, 2024, Accepted December 28, 2024

### **Keywords:**

Lifestyle, Incident Breast Cancer, Literature Studies

### Kata kunci:

Gaya Hidup, Kejadian Kanker Payudara, Studi Literatur

## **Corresponding Author:**

⊠ Ria Ayu Marvina
Phone: +62823-7192-1879
Email:riayaumarvinaa@gmail.c
om

# OPEN ACCESS

### Abstract

Introduction: Breast cancer is one of the non-communicable diseases that tends to continue to increase every year, so it can be said that the burden that the world has to bear due to the disease is increasing. Based on Globocan data in 2018 in Indonesia, breast cancer is in first place with the number of 16.7% cases, with the number of deaths as high as 11.0% matter This cannot be separated from the factors that trigger breast cancer, one of which is lifestyle. Objective: This literature review aims to determine the relationship between lifestyle, namely diet, physical activity, and exposure to cigarette smoke, with breast cancer. Methods: This study uses a literature review design. This study consists of 5 articles (3 national and 2 international) from 2005-2017. Data collection using literature studies obtained from Google Scholar and PubMed. From the research obtained, 3 literatures discuss cigarette smoke exposure variables, 3 literatures discuss smoking pattern variables, and 3 literatures discuss 3 variables of activity physique. Results: Data analysis was carried out by looking at the research year starting from the most recent and then stepping back to Which most long. From the literature obtained, 3 studies showed that there was a relationship between exposure to cigarette smoke and the incidence of breast cancer, 3 studies showed that there was a relationship between diet and the incidence of breast cancer, and 3 studies showed that there was a relationship between physical activity and incidence of breast cancer. Conclusion: There is a relationship between exposure to cigarette smoke, poor diet, and lack of physical activity with the incidence of breast cancer in women.

# Abstract

Latar Belakang: Kanker payudara termasuk salah satu penyakit tidak menular yang cenderung terus meningkat setiap tahunnya, sehingga dapat dikatakan bahwa beban yang harus ditanggung dunia akibat penyakit tersebut semakin meningkat. Berdasarkan data Globocan tahun 2018 di Indonesia menyebutkan kanker payudara berada pada urutan pertama dengan jumlah 16,7% kasus baru dengan angka kematian sebesar 11,0% hal ini tidak terlepas dari faktor pencentus kanker payudara salah satunya adalah gaya hidup. Tujuan: Literatur review ini bertujuan untuk mengetahui hubungan gaya hidup yaitu pola makan, aktivitas fisik dan paparan asap rokok dengan kanker payudar. Metode: Penelitian ini menggunakan desain studi literatur. Penelitian ini terdiri dari 5 artikel (3 nasional dan 2 internasional) tahun 2005-2017. Pengumpulan data menggunakan studi literatur yang diperoleh dari Google Scholar dan PubMed. Dari penelitian yang diperoleh, 3 literatur membahas variabel paparan asap rokok, 3 literatur membahas variabel pola makan dan 3 literatur membahas 3 variabel aktivitas fisik. Hasil: Analisis data dilakukan dengan melihat tahun penelitian mulai dari yang paling muthakhir dan mundur ke yang paling lama. Dari literatur yang diperoleh, 3 penelitian menunjukkan terdapat hubungan antara paparan asap rokok dengan kejadian kanker payudara, 3 penelitian menunjukkan terdapat hubungan antara pola makan dengan kejadian kanker payudara dan 3 penelitian menunjukkan terdapat hubungan antara aktivitas fisik dengan kejadian kanker payudara. Simpulan: terdapat hubungan terpapar asap rokok, pola makan yang tidak baik dan kurangnya aktivitas fisik dengan kejadian kanker payudara pada wanita.

How to cite:



### Introduction

Breast cancer is a malignancy that originates from glandular cells, glandular ducts, and supporting tissues of the breast, excluding the skin of the breast. (Mulyani & Rinawati, 2013). The highest incidence of cancer in the world is breast cancer at 42.1 per 100,000 population, followed by cervical cancer at 23.4 per 100,000 population, and the third is lung cancer at 12.4 per 100,000 population (WHO, 2018). Breast cancer in 2016 was in the 10th leading cause of death in high-income countries. Based on Globocan data in 2018 in Indonesia, breast cancer was in first place with amount 16.7% case new with number death as big as 11.0% (Globoccan, 2018).

The prevalence of cancer in Indonesia shows an increase of 1.4 per 1000 resident in year 2013 become 1.79 per 1000 population on year 2018. Prevalence cancer highest in Indonesia is West Java Province is 4,141 residents, followed by Central Java Province with 2,173 residents, and the lowest province is Papua Province with 0 residents. Breast cancer prevalence in Lampung Province as big as 1,836 resident (Kementerian Kesehatan RI, 2019). Coverage of breast cancer screening in 12 working areas of Metro City Health Centers in 2017, there were 3 health centers with the highest number highest tumor breast, among others Health Center Tejo Great 36.3%, Sumbersari Bantul 27.2% and Mulyojati 18.1%. Breast cancer screening coverage in 12 working areas of Metro City Health Centers in 2018, there were 3 health centers with the highest number of breast tumors, including Health Center Iringmulyo 44.4%, Tejo Great 24.4% And Sumbersari Bantul 15.5%. In 2019, breast cancer screening coverage in 12 working areas of the Metro City Health Centers showed that three health centers reported the highest proportions of breast tumor cases, namely Iringmulyo Health Center (34.7%), Tejo Agung Health Center (15.7%), and Metro Center Health Center (13.6%) (Dinas Kesehatan Kota Metro, 2019).

A preliminary survey conducted in two hospitals in Metro City named General Ahmad Yani Hospital and Mardi Waluyo Hospital, revealed a progressive increase in the incidence of breast cancer over recent years. At General Ahmad Yani Hospital, medical records from 2016 to 2018 demonstrated a consistent upward trend. In 2016, a total of 328 breast cancer cases were recorded, with 13 deaths attributed to the disease. The number of cases rose to 786 in 2017 with 10 reported deaths, and further increased to 1,133 cases in 2018 with 21 deaths. In 2019, data from January to September indicated 626 cases of breast cancer, with an additional 177 cases reported in October. Similarly, medical record data from Mardi Waluyo Hospital documented 107 breast cancer cases in 2018 and 42 cases between January and October 2019. These findings suggest that the incidence of breast cancer in Metro City has shown a notable upward trend, underscoring the need for enhanced prevention, early detection, and management strategies.

The impacts caused by breast cancer range from physiological, psychological, socio-economic, and death. Physiological effects can result in organ dysfunction, hematological changes, infections, and bleeding that can be life-threatening. Meanwhile, psychological disorders include anxiety and depression in women with cancer. The effects of stress caused by breast cancer can affect physical conditions, including decreased appetite, weight body decrease, and hair loss hair. Impact social, which appears in the form of financial problem and social relations (Chiriac et al., 2018).

Risk factors for breast cancer are gender, with a male to female ratio of approximately 1:100, menarche before the age of 13 years (8.77%), long-term use of estrogen-containing pills (42.11%), nulliparity (7.02%), and a family history of breast cancer sufferers. breast 15.7%). In addition, there are also other risk factors that are suspected to influence the incidence of breast cancer, namely first pregnancy at the age of over 30 years, menopause after the age of 50 years, history of breastfeeding, and obesity. Conversely, in women with a history of late menarche, anovulation, early menopause (spontaneous or due to certain actions), there is a decreased risk of breast cancer due to decreased estrogen levels; in other words, estrogen exposure (Colditz, 2015).

In addition, several risk factors have been identified, including family history and genetic predisposition, the use of hormonal contraception or hormone replacement therapy, age, race, nulliparity, and obesity. Lifestyle-related factors such as unhealthy dietary patterns, smoking, alcohol consumption, and physical inactivity also contribute to an increased risk of breast cancer (Sun et al.,2017). Obesity, in particular, may stimulate the body to produce higher levels of estrogen, which can trigger abnormal cell division processes. Furthermore, fat compounds are known to generate free

radicals that can promote the growth and proliferation of cancer cells (Maria; et al., 2017).

Fat accumulation in the body can influence hormonal balance, ultimately causing abnormal cell growth that may become cancerous. According to a study by Maria Leida et al. (2017) conducted at Makassar City Hospital on the relationship between lifestyle risk factors and the incidence of breast cancer among women, using a case-control study design, the statistical analysis showed that fat consumption above the average level among respondents was significantly associated with breast cancer incidence (p = 0.005). Other factors such as obesity (p = 0.069), smoking (p = 0.06), and stress (p = 0.012) were also found to have an influence, indicating that fat consumption, obesity, smoking, and stress are contributing risk factors for breast cancer development.

Activity is a factor risk of cancer. It is known that the lower the physical activity, the greater the risk factor for breast cancer. Physical activity is a modifiable risk factor for breast cancer. Cancer risk factors will decrease with changes in increasing physical activity. According to the results study Yulianti lin, et al. (2016) in RS Ken Sara Semarang, Regarding Breast Cancer Risk Factors, with a case control study design, it can be concluded that the risk factor that has been proven to influence the incidence of breast cancer is a history of breast cancer in the family. with p-value = 0.029 And activity physique or sport p-value= 0.032. In addition, cigarette smoke (tobacco) contains a carcinogen that is harmful to the body, namely polycyclic aromatic hydrocarbons (PAH) which can increase the risk of breast cancer. According to the research results of Suardita, et al. (2016) in Hospital Ironwood Jakarta, about The Trigger of Cancer Prevalence, states that passive smokers play a major role in triggering breast cancer in women, namely 60%, the duration of smoking carried out by active smokers is mostly <1 hour, namely 46%. Study This will analyze a number of style life that is exposure to cigarette smoke, diet and physical activity are associated with the incidence of cancer breast. Study This will researching with type literature study design.

## Method

This research design uses a study research design. literature. Study with studies literature is A research whose preparation is the same as other research, but sources and methods of data collection by taking data in the library, reading, recording, and processing research materials. Data sources for literature study research can be official sources but can also be seminar reports or conclusions, notes or recordings of scientific discussions, official writings published by the government and other institutions (Melfianora, 2019). The following is a research design based on the diagram.

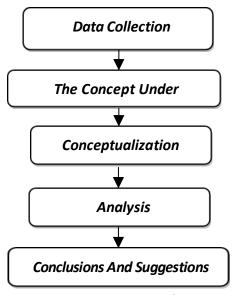


Figure 1. Diagram Flow Draft Study

# 1. Data Collection

The data collection used comes from scientific articles containing about draft Which will researched.

### Ria Ayu Marvina

Jurnal Kesehatan Metro Sai Wawai, Vol. 17 No. 2, December 2024, 108-117

Type data Which collected in this study is a type of data through secondary data. Researchers obtain secondary data based on the results of previous studies that choose the same variables as those to be studied. The method of data collection in this study is as follows:

- a. Search for articles that are in accordance with the objectives and formulation of research problems in the Google Scholar and PubMed databases according tocriteria Which wanted
- b. Journal summarized into the table Which provided
- c. Analyze journal Which provided

### 2. Data Analysis

According to Sugiyono (2018), data analysis is the process of finding And compile in a way systematic data Which obtained from interview results, field notes and documentation by organizing data into categories, breaking it down into units, synthesizing it, arranging it into patterns, choosing what is important and what will be studied and making conclusions so that it is easy understood by self Alone and person other.

This study analyzed the collected data through a sequential process, beginning with a careful review of research articles categorized by their level of relevance, starting from the most relevant, followed by relevant, and moderately relevant studies. Another approach used in analyzing the literature was to organize the studies chronologically, beginning with the most recent publications and progressing to earlier ones. At this stage, the collected data were examined in greater depth to derive meaningful conclusions from the review. The results of the data analysis were then further explored during the discussion phase, where the findings were interpreted in detail to validate the relationships between the analyzed variables based on the formulated research questions. Finally, an appropriate critical review of the selected journals was conducted to support and strengthen the overall conclusions of the study.

# Results

This research is a literature review that synthesizes findings from several studies relevant to the research theme. The reviewed literature was obtained from published sources available in full-text format, including both national and international publications. The literature search was conducted using databases such as PubMed and Google Scholar. The keywords used in the search included breast cancer, lifestyle, exposure to cigarette smoke, diet, and physical activity.

# Connection Exposure Smoke Cigarette with Incident Cancer Breast Table 1.

Summary from literature about connection exposure smoke cigarette with breast cancer incidence

No	Author/ Year	Title	Method	Signification	Resume
1	Ida Leida Maria, Andi Asliana Sainal, Mappeat Nyorong (2017)	Risk Lifestyle on Breast Cancer Incidence in Women	Observational analytical research design with case study research design control	Smoke exposure cigarette P value =0.016, OR = 2,579 (CI 95% = 1,189- 5,593)	The test results from the study showed that women who were passive smokers were significantly significantly more big risk of breast cancer
2	Bin Li, Lian Wang, Min- Shan Lu, Xiong Fei Mo, Fang- Yu Lin, Suzanne C Hey and Cai Xia Zhang (2014)	Passive smoking and breast Cancer risk among non smoking women: a case control study in China	Design study analytic observational with design study case control	Exposure smoke cigarette P value = 0.002 OR = 1.35 (Cl 95% = 1.11- 1.65	Results test from study show woman with passive smoker in a way significant more big risk caught cancer breast
3	Rini Indrati, Henry Setyawn S And Joko Handojo (2005)	Factor-factor risk Which influential to incident cancer breast woman	Design study Analytic observation al with design study case control	Activity physique P value = 0.03 OR = 2.36 (CI 95% = 1.08- 5.19)	Results test from Study show woman with passive smoker in a way significant more big risk caught cancer breast

Table. 1 shows 3 research articles that provide an overview of the relationship between cigarette

smoke exposure (passive smoking) and breast cancer incidence. Of the 3 studies that have been reviewed, all of them say that cigarette smoke exposure (passive smoking) is related to breast cancer incidence.

**Table 2.**Connection Exposure Smoke Cigarette (Smoker Passive) With Breast Cancer Incident

			Breast Cancer					
No	Author	<b>Exposure To Cigarette Smoke</b>	Yes		No		OR	p-Value
			Total	%	Total	%		
		Passive Smoker	50	68.5	38	52.1		
1	Meria, dkk (2017)	Do Not Smoke	23	31.5	35	47.9	2.579	0.016
		Total	73	100	73	100		
	Indrati, dkk	Passive Smoker	31	59,6	20	38,5		
2	(2005)	Do Not Smoke	21	40,4	32	61,5	2,36	0,03
		Total	52	100	52	100		
	Mong did	Passive Smoker	495	56,4	442	49,7		
3	Wang, dkk	Do Not Smoke	382	43,6	448	50,3	1,35	0,002
	(2014)	Total	877	100	890	100		

Based on table 2 of 3 articles, it is known that the number of women exposed to cigarette smoke who developed breast cancer was 576 respondents supported by an OR value ranging from 2.57-1.35, which means that women who are exposed to cigarette smoke can have a 1.35 times greater risk of developing breast cancer compared to women who do not smoke and a maximum of woman Which exposed smoke cigarette at risk as big as 2.57 time fold compared woman Which No smoke. Whereas results analysis with p-value 0.002-0.03 where the p-value is the smallest probability value or error value of the statistical test when compared with  $\alpha$ , the largest error limit that can be is tolerated, then p< $\alpha$  or p<0.05, then Ho is rejected, meaning that women who are exposed to cigarette smoke are significantly related to the incidence of breast cancer in women.

# Connection Pattern Eat with Incident Cancer Table 3.

Summary From Literature About Connection Pattern Eating With Breast Cancer Incidence

No	Author/ Year	Title	Method	Signification	Resume
1	Ida Leida Maria, Andi Asliana Sainal, Mappeat y Nyorong (2017)	Risk Lifestyle on Breast Cancer Incidence in Women	Observational analytical research design with case study research design control	High fat consumption: P value = 0.005 OR = 2,872 (CI 95% = 1,410-5,849)	The test results from the research show there is a significant relationship between high fat consumption and cancer breast
2	Rini Indrati, Henry Setyawn S and Djoko Handojo (2005)	Risk factors which influences the incidence of breast cancer in women	Observational analytical research design with case study research design control	Fat consumption high P value = 0.003 OR = 3.50 (Cl 95% = 1.52- 8.04)	The test results from the research show there is a significant relationship between high fat consumption and cancer breast

Table 3 shows 2 research articles that provide an overview of the relationship between high-fat food consumption and cancer incidence breast. From the 2 study which has been reviewed, everything said that consumption of high-fat foods is related to the incidence of breast cancer.

**Table 4.**Connection With Consumption Food Fat High Incidence of Breast Cancer

			Breast Cancer					
No	Author	<b>Fat Consumption</b>	Yes_		<u>No</u>		OR	p-Value
			Total	%	Total	%		
	Indrati, dkk (2005)	High	28	53,8	13	25,0		
1		Low	24	46,2	39	75,0	3.50	0.003
		Total	52	100	52	100		
	Meria, dkk (2017)	High	34	46,6	17	23,3		
2		Low	39	53,4	56	76,7	2,872	0,005
	_	Total	73	100	73	100		

### Ria Ayu Marvina

Jurnal Kesehatan Metro Sai Wawai, Vol. 17 No. 2, December 2024, 108-117

Based on table 4 from 2 articles, it is known the number of women with consumption fat tall Which caught cancer breast as big as 62 respondents are supported by OR values ranging from 3.50-2.872, which means that women who consume high fat can have a risk of 2.87 times greater for breast cancer compared to women who consume low fat and a maximum of women who consume high fat have a risk of 3.50 times greater than women who consume low fat. While the results of the analysis with the p-value got range 0.003-0.005 Where p-value is mark probability the smallest or mark error from test statistics If compared to  $\alpha$ , the largest tolerable error limit, then p< $\alpha$  or p<0.05, then Ho is rejected, meaning that high fat consumption is significantly related to the incidence of breast cancer in women.

# **Connection Activity Physique with Incident Cancer Breast**

Summary from literature about connection activity physical with breast cancer incidence

No	Writer/Year	Title	Method	Signification	Resume
1	Virginia Lope et al (2016)	Physical Activity and Breast Cancer Risk by Pathological Subtype	Observational analytical research design with research design case control	Physical activity P value = 0.016 OR = 3.50 (CI 95% = 1.80-6.81)	The test results from the study showed that women Which more active significantly lower risk caught cancer
2	Rini Indrati, Henry Setyawati S and Djoko Handojo (2005)	factors that influence the incidence of female breast cancer	Observational analytical research design with case study research design control	Physical activity P value = 0.001 OR = 4.66 (CI 95% = 2.04-10.64)	The test results from the study showed that women Which more active significantly lower risk of cancer

Table 5 shows 2 research articles that provide an overview of the relationship between physical activity and breast cancer incidence.

**Table 6.**Connection Activity Physique with Incident Cancer Breast

			Breast Cancer					
No	Author	Physical Activity	Yes_		<u>No</u>		OR	p-Value
			N	%	N	%		
1	Indrati, dkk (2005)	<4 hours/week	34	65.4	15	28.9	4.66	0.001
1		≥4 hours/week	18	34.6	37	71.1		
2	\/:n=:n:n         /2016\	≤36 hours/week	613	88	578	83	2.50	0.016
	Virginia, dkk (2016)	>36 hours/week	85	12	120	17	3.50	0,016

Three articles say that physical activity is related to breast cancer. Research conducted by Indrati, et al. (2005) obtained a p-value of 0.001 with an OR value of 4.6, which means that there is a significant relationship between the habit of doing physical activity <4 hours/week with the incidence of breast cancer, where a woman who does physical activity <4 hours/week own risk 4.6 time caught cancer breast.

Meanwhile, research conducted by Virginia et al (2016) obtained a p-value of 0.016 with an OR value of 3.50, which means that there is a significant relationship between the habit of doing physical activity <36 hours/week and the incidence of breast cancer, where a woman Which do activity physique <36 hours/week own risk 3.5 times more likely to get breast cancer.

# **Discussion**

# **Connection Exposure Smoke Cigarette with Cancer Breast**

From the 3 studies that have been reviewed, it was stated that there is a relationship between exposure to cigarette smoke and the incidence of breast cancer. Smoking cigarettes can increase the risk of breast cancer Because Cigarette smoke contains chemicals in high concentrations that can cause breast cancer. Chemicals in smoke reach breast tissue and are found in breast milk. Cigarette smoke can also have different effects on the risk of breast

Jurnal Kesehatan Metro Sai Wawai, Vol. 17 No. 2, December 2024, 108-117

cancer in smokers and those who are only exposed to cigarette smoke. In this case, in line with the theory that cigarette smoke (tobacco) contains a carcinogen that is harmful to the body, namely polycyclic aromatic hydrocarbons (PAHs), which can increase the risk of breast cancer. Some women are susceptible to various other risk factors, need to avoid exposure to cigarette smoke as much as possible for as long as possible in order to reduce factor risk breast cancer (Mulyasari et al, 2017).

This is in line with the theory that states that the nicotine and carbon monoxide content in cigarette smoke causes blood flow to various parts of the body to be blocked. Cigarette smoke that has entered the bloodstream can be transported to the breasts by plasma lipoproteins, so that exposure to cigarette smoke can have an effect to the incident breast cancer (Xue et al.,2011).

Passive smoking plays a major role in triggering breast cancer in women, namely 60%, the length of time they smoke smoker active most majority is < 1 O'clock that is as big as 46%. This is in line with the theory that states that women who become smoker passive (Which stay together family Which have smoking habits) will increase the risk 1.4 times compared to women who are not exposed to cigarette smoke (Regulation of the Minister of Health of the Republic of Indonesia No. 34/2015: IV: 40). Exposure to cigarette smoke is measured when exposure to cigarette smoke is obtained at home and in the workplace where exposure to cigarette smoke is average >1 hours/day (Ministry of Health Regulation Republic of Indonesia No 43/2015).

Based on the discussion of the literature study, exposure to cigarette smoke is related to breast cancer. Researchers recommend that women wear masks and stay away from active smoking agents, because the more often they are exposed to cigarette smoke, the greater the risk of developing breast cancer.

### **Connection Eat Pattern with Cancer Breast**

Three study has reviewed on found that related eating patterns are consuming fat. Consuming fatty foods can cause body to produce more estrogen and will trigger the process of abnormal cell division. Fat compounds also produce free radicals that can trigger the growth of cancer cells. Fat that accumulates in the body will affect hormones, which ultimately make cells grow abnormally and become cancerous.

Excessive eating patterns will result in obesity. Obesity is at high risk of cancer because fat cells produce estrogen, extra fat cells produce more estrogen in in body so that estrogen can trigger the emergence of cell cancer (Maria et al, 2017). This finding is in line with the theory stating that a high intake of fat, particularly saturated fat, has been associated with an increased risk of breast cancer. Excessive fat consumption can also lead to weight gain and obesity, which are known contributing factors to breast cancer development (Barasi, 2010).

This is consistent with the findings of Girsang et al. (2018), who reported a significant relationship between fat consumption and the incidence of breast cancer (p = 0.05; OR = 0.28). Similarly, Mulyani and Rinawati (2013) stated that excessive fat consumption can lead to increased body fat, thereby elevating the risk of breast cancer. Excessive body fat, especially when not balanced with regular physical activity, can lead to insulin resistance, which in turn increases the desire to consume carbohydrate-rich foods containing sugar. As insulin production rises alongside weight gain, higher levels of body fat contribute to elevated estrogen levels, resulting in earlier breast development and menstruation, both of which are associated with an increased risk of breast cancer.

Based on a review of three studies, it can be concluded that diet is associated with the risk of breast cancer, particularly diets high in fat. The higher the intake of fatty foods, the

### Studies Literature: Connection Style Life with Incident Breast Cancer

### Ria Ayu Marvina

Jurnal Kesehatan Metro Sai Wawai, Vol. 17 No. 2, December 2024, 108-117

greater the body's production of estrogen, which may contribute to the development of breast cancer. Therefore, researchers recommend that women adopt a proactive approach to maintaining a healthy lifestyle by consuming nutritious foods and avoiding dietary patterns that may increase the risk of breast cancer.

# **Connection Physical Activity with Breast Cancer**

Breast cancer risk, particularly in individuals who engage in physical exercise for less than 4 hours per week, less than 36 hours per week, or less than 30 minutes per day. Physical activity may influence breast cancer risk through the reduction of abdominal fat. Increased body fatness has been linked to higher circulating concentrations of estrogen and androgens in women, increased production of pro-inflammatory adipokines, and decreased levels of sex hormone—binding globulin (SHBG), which normally binds reversibly to estrogen. However, physical activity may also influence these mechanisms independently of fat loss. In addition, physical activity affects immune system function; regular light exercise can enhance both the number and activity of natural killer (NK) cells, which play a critical role in targeting and destroying cancer cells, thereby contributing to tumor suppression (Lope. et al, 2016).

Women who do physical activity <4 hours/week have a risk of getting breast cancer, this is in line with the theory (Sudewo, 2012) which states that brisk walking for at least 30 minutes per day with a frequency of 3-5 days per week can prevent cancer (Tapan, 2005). Study latest from Women's Health Initiative (WHI) walk fast minimum 1.25 until with 2.5 O'clock per Sunday can reduce the risk of breast cancer by 18%. Recommended physical exercise is for 45- 60 minute and a minimum five day in a week. Sufficient physical activity or exercise will affect the decrease in hormonal circulation, thus reducing the proliferation process and preventing breast cancer. In reducing the risk of breast cancer, physical activity is associated with the ability to increase immune function, reduce body fat and affect hormone levels.

Based on the discussion of the literature review above, it can be concluded that a lack of physical activity is associated with an increased risk of breast cancer. Individuals who engage in adequate physical activity or regular exercise experience decreased circulating hormone levels, which can reduce cell proliferation and help prevent breast cancer. Therefore, it is recommended that women perform regular physical activity, such as exercise, for at least 40–60 minutes per day. Adequate physical activity helps maintain energy balance between calorie intake and expenditure. In addition, regular exercise can strengthen the immune system, reduce body fat, and regulate hormone levels, all of which contribute to lowering the risk of developing breast cancer.

# **Conclusions**

Based on the results of studies, literature Which done on a number of articles on the relationship between lifestyle and breast cancer incidence, the following conclusions can be drawn:

- 1. There is a connection between exposure to cigarette smoke with breast cancer incidence
- 2. There is a connection between the pattern Eat and with incidence of breast cancer
- 3. There is a connection between physical activity and physique with the incidence breast cancer

The suggestions that can be given as a result of this research in order to provide a general overview of lifestyles related to breast cancer are as follows:

- 1. It is hoped that future researchers can conduct further research by developing other variables related to breast cancer incidence and expanding the search to the latest journals.
- 2. For women who have had breast cancer, it is best to wear a mask and stay away from

Jurnal Kesehatan Metro Sai Wawai, Vol. 17 No. 2, December 2024, 108-117

active smoking agents, and be more proactive in implementing a healthy lifestyle by consuming... food Which Healthy And nutritious as well as Avoid foods that trigger breast cancer and do physical activity or sport minimum 40-60 minute in a day.

### Reference

- Barasi, M. E. (2010). Human nutrition: A health perspective (3rd ed.). London: Arnold Publishers.
- Chiriac, V. F., Baban, A., & Dumitrascu, D. L. (2018). Psychological stress and breast cancer incidence: a systematic review. Clujul Medical, 91(1), 18. <a href="https://doi.org/10.15386/cjmed-924">https://doi.org/10.15386/cjmed-924</a>
- Colditz, G. A., & Bohlke, K. (2015). Preventing breast cancer now by acting on what we already know. *NPJ Breast Cancer*, 1(1), 1-4. https://doi.org/10.1038/npjbcancer.2015.9
- Dinas Kesehatan Kota Metro. (2019). Laporan cakupan skrining kanker payudara di 12 wilayah kerja Puskesmas Kota Metro tahun 2019. Kota Metro: Dinas Kesehatan Kota Metro.
- Girsang, E., Siregar, R., & Simanjuntak, M. (2018). Hubungan konsumsi lemak dengan kejadian kanker payudara pada wanita. *Jurnal Kesehatan Masyarakat*, 9(2), 112–119.
- Girsang, & suprapto, s. i. (2016). *Patologi & Patofisiologi Penyakit*. Yogyakarta: Nuha Medika.
- Indrati, R. (2005). Faktor faktor risiko yang berpengaruh terhadap kejadian kanker payudara wanita. *Jurnal Epidemiologi*.
- International Agency for Research on Cancer. (2019). GLOBOCAN 2018: Global cancer statistics for 2018. World Health Organization. Retrieved from <a href="https://gco.iarc.fr/">https://gco.iarc.fr/</a>
- Kementerian Kesehatan Republik Indonesia. (2019). Riskesdas 2018: *Riset Kesehatan Dasar.* Jakarta: Kementerian Kesehatan RI.
- Lope, V., Martín, M., Castelló, A., Casla, S., Ruiz, A., Baena-Cañada, J. M., ... & behalf of GEICAM, O. (2017). Physical activity and breast cancer risk by pathological subtype. *Gynecologic oncology*, 144(3), 577-585. https://doi.org/10.1016/j.ygyno.2016.12.014
- Maria, I. L., Sainal, A. A., & Nyorong, M. (2017). Risiko gaya hidup terhadap kejadian kanker payudara pada wanita. *Media Kesehatan Masyarakat Indonesia*, 13(2), 157.
- Mangan, Y. (2007). Cara Bijak Menaklukan Kanker. Jakarta: Agromedia Pustaka.
- Manik, N. T., Maryati, I., & Ermiati. (2012). *Riwayat Gaya Hidup Penderita Kanker Payudara*. Jakarta.
- Medforth, J., Battersby, S., Evans, M., B., & Walker, A. (2015). *Kebidanan Oxford dari Kebidanan Untuk Bidan*. Jakarta: Buku Kedokteran.
- Mulyani, N. S., & Rinawati, M. (2013). *Kanker Payudara dan PMS pada Kehamilan*. Yogyakarta: Nuha Medika.
- Mulyasari, A. D., Hartati, B., & Cece, S. (2017). Analisis Faktor Risiko Kanker Payudara pada RSU. BahteraMas Kota Kendari Provinsi Sulawesi Tenggara Tahun 2017. *Jurnal Ilmiah Mahasiswa Kesehatan Masyarakat*, 2(6).
- Suardita, I. W., Chrisnawati, C., & Agustina, D. M. (2016). Faktor-Faktor Resiko Pencetus Prevalensi Kanker Payudara. *Jurnal Keperawatan Suaka Insan (JKSI)*, 1(2), 1-14. <a href="https://doi.org/10.51143/jksi.v1i2.40">https://doi.org/10.51143/jksi.v1i2.40</a>
- Sudewo, B. (2012). Basmi Kanker Dengan Herbal. Jakarta: Visimedia.
- Sugiyono. (2018). *Metode Penelitian Kuantitatif, Kualitatif dan R&D*. Bandung: Alfabeta. Sukmana, T. (2011). *Mengenal Rokok dan Bahayanya*. Jakarta: Be Champion.
- Sun, Y. S., Zhao, Z., Yang, Z. N., Xu, F., Lu, H. J., Zhu, Z. Y., ... & Zhu, H. P. (2017). Risk factors and preventions of breast cancer. *International journal of biological sciences*, 13(11),

### Studies Literature: Connection Style Life with Incident Breast Cancer

### Ria Ayu Marvina

Jurnal Kesehatan Metro Sai Wawai, Vol. 17 No. 2, December 2024, 108-117

1387. 10.7150/ijbs.21635

- Tapan, d. (2005). Kanker, Antioksidan dan Terapi Komplementer. Jakarta: Gramedia.
- WHO. (2012). *Global Physical Activity Surveillance*. World Health Organizatoin: http://www.who.int/ncds/surveillance/steps/GPAQ/en/
- Xue, F., Willett, W. C., Rosner, B. A., Hankinson, S. E., & Michels, K. B. (2011). Cigarette smoking and the incidence of breast cancer. *Archives of internal medicine*, 171(2), 125-133. <a href="https://doi.org/10.1001/archinternmed.2010.503">https://doi.org/10.1001/archinternmed.2010.503</a>
- Yulianti, I., Santoso, H. S., & Sutinigsih, D. (2016). Faktor-faktor risiko kanker payudara (studi kasus pada Rumah Sakit Ken Saras Semarang). *Jurnal Kesehatan Masyarakat*, *4*(4), 401-409. <a href="https://doi.org/10.14710/jkm.v4i4.14162">https://doi.org/10.14710/jkm.v4i4.14162</a>