



Association Between Lifestyle and Breast fibroadenoma

Nita Astri¹, Milatun Khanifah²

^{1,2} Universitas Muhammadiyah Pekajangan Pekalongan, Indonesia

Email: nitaastri19@gmail.com, milahanifah1980@umpp.ac.id

ABSTRACT

Fibroadenoma is a benign tumor in which epithelial cells are arranged in fibrosa. Although breast fibroadenoma tumors are benign, they can still trigger the risk of developing breast cancer. The purpose of this study is to see if there is a relationship between lifestyle and the incidence of breast fibroadenoma. This Study is a quantitative research using a case-control design. The population in this study consists of all patients examined at the surgical polyclinic of kratos hospital from December 2023 to January 2024 with a population of 114. The chi square hypothesis test with a p-value of 0.000 means that < 0.05 statistically there is a significant relationship between lifestyle and the incidence of breast fibroadenoma. Lifestyle changes and hereditary factors are triggers for the onset of breast diseases, including fibroadenoma and cancer. The relationship between lifestyle and breast fibroadenoma shows that there is a statistically significant relationship between lifestyle and breast fibroadenoma. Patients with poor lifestyles were 9,679 times more likely to develop breast fibroadenoma compared to patients with good lifestyles.

Keywords: Life Style, Breast Fibroadenoma

©2025 Nita Astri, Milatun Khanifah

Under the licence CC BY-SA 4.0

*Milatun Khanifah, Universitas Muhammadiyah Pekajangan Pekalongan, Indonesia, milahanifah1980@umpp.ac.id

INTRODUCTION

Fibroadenoma is a benign tumor in which epithelial cells are arranged in fibrosa. Although breast fibroadenoma tumors are benign, they can still trigger the risk of developing breast cancer. The results of the study by Soltanian & Lee (2015), stated that women with breast fibroadenoma have a 2.17 times risk of breast malignancies compared to women who do not suffer from breast fibroadenoma. Several studies have proven that breast fibroadenoma is a risk factor for breast cancer. According to Castells, there is a 2.51 times higher risk of breast cancer in women with breast tumors (Castells et al., 2015).

According to the World Health Organization (2018), the prevalence of breast fibroadenoma in the world in 2018 in women was 8-10%. About 10-15% of mammal fibroadenoma cases are multiple. In Indonesia, the number of women detected by breast fibroadenoma has increased. In the last decade, there has been an increase in breast fibroadenoma cases every year. In 2015 it was 1.8 per 100,000 women, in 2016 it was 3.3 per 100,000 women and in 2017 it was 21.3 per 100,000 women. The Ministry of Health of the Republic of Indonesia (2019) also reported cases of benign breast tumors as many as 16,956 people in 2018

(Ministry of Health of the Republic of Indonesia, 2019).

There are several factors that can increase the risk of developing breast fibroadenoma, including older age, breast fibroadenoma history of breast tumors, alcohol consumption, high-fat and low-fiber diets, radiation exposure during growth, menopause that occurs at an older age, giving birth at an older age, never giving birth, not breastfeeding, the use of hormone replacement therapy, and long-term use of hormonal contraceptives (Setiadharna et al., 2019). Among these factors are lifestyle indicators, namely alcohol consumption and diet. Another study according to (Nasyari et al., 2020) revealed that the biggest risk factors for breast fibroadenoma are environmental and lifestyle factors, which account for around 90-95% of cases. Among these factors, diet has a share of about 30-35% in increasing risk, while smoking has a share of about 25-30% and alcohol consumption is about 4-6% (Yulinda & Fitriyah, 2018).

Other studies also revealed a relationship between junk food consumption and the incidence of breast fibroadenoma (p value 0.002). This is in accordance with the statement that junk food contains acrylamide which is a carcinogen compound that can trigger abnormal cell growth. This is in line with the research of

Eva Fitrianiangsih at the Banda Aceh Oncology Hospital, which states that a bad diet such as frequent consumption of meat, processed meat with preservatives, sweet foods, junk food and high-fat foods has a high risk of causing breast cancer (Jessica, 2020). Lifestyle factors such as diet, smoking, breast fibroadenomally planning history, there are also lifestyle indicators that are not often done such as physical activity, social activities, sexual relationships.

There have been many studies that have revealed the relationship between lifestyle and the incidence of BREAST FIBROADENOMA, but the lifestyle that is widely researched in relation to BREAST FIBROADENOMA is an indicator of smoking habits, diet or nutritional patterns and alcohol consumption. Other lifestyle indicators such as physical activity, relationships with social breast fibroadenomailies, and sleep habits are still not widely revealed.

Data obtained from the Pekalongan Regency Health Office in 2022 was obtained in the SADANIS examination (clinical breast examination) carried out at health centers in the Pekalongan regency area, it was found that 22 people were found to have lumps on their breasts (Health Office, 2022). Kraton Hospital is one of the referral hospitals for surgical cases in Wania. Based on the results of a

preliminary study, data on breast fibroadenoma patients at Kraton Hospital in 2021 was 300 cases and in 2022 there were 372 cases, which shows an increase in breast fibroadenoma cases over the past year.

Based on the description of the material that has been explained, the researcher is interested in conducting research on "The Relationship between Lifestyle and the Incidence of Mammal Fibroadenoma at Kraton Hospital in 2023."

METHODE

This quantitative study used a case control design. The design of this study was compare the case group with the control group so that the proportion of events was known based on the history of exposure. All patient who were examined at the Kraton Hospital surgical polyclinic from December 2023 to January 2024 recruited in this study. The sampling technique uses Qouta Sampling where the sample was determined from a population that has certain characteristics until the desired number (quota) was met. The case group consisted of patients diagnosed with breast fibroadenoma while the control group included patients without breast fibroadenoma. The controls group in this consisted 76 patients had no breast fibroadenoma and 38 patients who had breasr fibroadenoma were cases group.

FANTASTIC Lifestyle questionnaire was modified and tested for validity. Participants completed the questionnaire with information on sociodemographic, and risk factor of breast fibroadenoma. Baseline characteristic both cases and controls group wa expressed as counts (%). The case and control groups were compared using Chi-square test. Adjusted odds ratios and 95% Wald confidence intervals were calculated. Statistical significance was set at $P < 0.05$.

RESULTS AND DISCUSSIONS

Result

This research was conducted at the Kraton Hospital, Pekalongan Regency on December 18, 2023 – January 7, 2024. The subjects in this study were all patients examined at the Kraton Hospital surgical polyclinic who met the requirements and the number of respondents involved was 114 with a ratio of 1:2. The number of cases was 38 respondents and the control was 76 respondents.

Table 1. Sociodemographic and Risk Factor of Two Groups

Sociodemographic and Risk Factor	Group			
	Cases		Controls	
	N	%	N	%
Age				
<30 years	9	23,7%	6	7,9%
30-50 years	24	63,2%	61	69,7%
>60 years	5	13,2%	9	10,5%
Marital Status				
No	3	7,9%	5	6,5%
Yes	35	92,1%	71	92,2%
Education Level				
Primary Education (Elementary School, Junior High Schol)	17	44,8%	2	38,1%
Secondary Education (Senior High School)	17	44,7%	38	50,0%
Higher Education	4	10,5%	9	11,8%
Occupation				
Housewives	27	71,1%	46	60,5%
Self Employed	7	18,4%	21	27,6%
Private employee	4	10,5%	9	11,8%
Duration of Celular Phone Utilization				
No	23	60,5%	15	19,7%
< 3 hours/day	2	5,3%	22	28,9%
3-8 hours/day	8	21,1%	39	51,3%
>8 hours/day	5	13,2%	0	0%
Body Mass Index				
Underweight (<18,5)	3	7,9%	5	6,5%
Normal (18,5-22,9)	29	76,3%	64	83,1%
Overweight (23-24,9)	6	15,8%	7	9,1%
Family History of Cancer				
No	20	52,6%	57	75,0%
Breast Cancer	12	31,6%	14	18,4%
Cervical or Uterine Cancer	1	2,6%	0	0%
Cancer Ovary	3	7,9%	4	5,3%
Others	2	5,3%	1	1,3%
Menarche Age				
Normal (11-13 tahun)	22	57,9%	42	54,5%
Late (>13 tahun)	16	42,1%	34	44,7%
Breastfeeding History				
No	6	15,8%	6	7,9%
Yes	32	84,2%	70	92,1%
Contraception Methode History				

Sociodemographic and Risk Factor	Group			
	Cases		Controls	
	N	%	N	%
No	12	31,6%	6	7,9%
Oral Contraception	1	2,6%	4	5,3%
Injection and/or Implant	14	36,8%	35	46,1%
Intra Uterine Device	7	18,4%	31	40,8%
Condom	2	5,3%	0	0%
Others	2	5,3%	0	0%

Table 5.1 shows that most of the respondents, both cases and controls, are in the age range of 30-50 years, namely 63.2% in cases and 69.7% in controls. Most of them are both in cases and control with married status. Most of both cases and controls have a secondary education level of 44.7% in cases and 50% in controls. Most of the respondents did not work in either the case or the control, namely 71.1% in the case and 60.5% in the control. Most of the respondents, both case and control, had BMI in the normal category in 76.3% of cases and 83.1% in control. Almost half of the respondents had a breast fibroadenoma history of breast cancer as much as 31.6% in cases

and 18.4% in controls. Most of the respondents had menarche at normal age, both cases and controls, with 57.9% of cases and 54.5% of cases in control. Most of the respondents, both cases and controls, were breastfeeding for up to 2 years with 84.2% of cases and 92.1% of the controls. Most of the respondents, both case and control, use hormonal types of Kb, such as pills, injections, and implants. Most of the case respondents or 60.5% of case respondents do not have cellphones and rarely use cellphones, but almost half in frequency control use cellphones for more than 8 hours per day with a percentage of 38.2%.

Table 1. 2 Association between Lifestyle and Breast Fibroadenoma

Lifestyle	Group				P value	OR (Interval Confident/IK)
	Cases		Controls			
	N	%	N	%		
Poor	32	84,2%	27	35,5%	0,000	9,679
Good	6	15,8%	49	64,5%		(IK 95% 3,959-26,060)

The table above shows that of all patients who experience breast fibroadenoma, as many as 32 (84.2%) have a poor lifestyle. Meanwhile, of all patients who are not breast fibroadenoma, as many as 27 (35.5%) have a poor lifestyle. Of all patients who experienced breast fibroadenoma, 6 (16.7) had a good lifestyle, while 49 (64.5%) patients who did not experience breast fibroadenoma had a good lifestyle. The chi square

hypothesis test with a p-value of 0.000 means that < 0.05 statistically there is a meaningful relationship between lifestyle and breast fibroadenoma. The relationship strength parameter used was OR, which was 8.448 with an IK of 95%. This means that patients with a poor lifestyle have 9 times the odds to experience breast fibroadenoma compared to patients who have a good lifestyle.

Discussion

There was a significant relationship between lifestyle and the incidence of breast fibroadenoma where a p value of 0.000 and a probability value of 0.679 times experienced breast fibroadenoma compared to people who had a good lifestyle. Lifestyle changes and hereditary factors are triggers for the onset of breast diseases, including fibroadenoma and cancer. The biggest risk factors that cause breast fibroadenoma are environmental and lifestyle factors (90-95%) including diet (30-35%), smoking (25-30%) and alcohol consumption (4-6%). Diet is the factor that has the greatest influence, which is 30-35% on the incidence of breast tumors. Changes in the diet of the Indonesian people are suspected to be due to the incessant promotion of fast food such as fast food or junk food which is rich in carbohydrates and fat but low in fiber (Maria et al., 2017). Research by Nasyari et al (2020) shows that the wrong diet can develop breast tumor cases by 1.9 times. Women who have a habit of consuming high-calorie and saturated fat foods such as fast food, cheese, full-cream milk, eggs, butter, meat, fried chicken, and baked foods can increase estrogen production to more and can make the cell division process abnormal (Maria et al., 2017).

CONCLUSION

The relationship between lifestyle and breast fibroadenoma shows that there is a statistically significant relationship between lifestyle and breast fibroadenoma. Patients with poor lifestyles were 9,679 times more likely to develop breast fibroadenoma compared to patients with good lifestyles

BIBLIOGRAPHY

- Adil, A., Efendi, S., Sulistiyani, Hasniati, Azza, A., Alwi, Nurdiansyah, T. E., Lamonge, A. S., Syapitri, H., Sumarmi, Eravianti, Rakinaung, N. E., & Oroh, C. T. M. (2023). *Metodologi penelitian kesehatan* (L. Sulung, Ed.). Get Press Indonesia.
- Alini, W. L. (2020). Faktor-Faktor Yang Menyebabkan Kejadian Fibroadenoma Poliklinik Spesialis Bedah Umum RSUD Bengkalis. *J Ners Univ Pahlawan*, 2(1), 1–10.
- Aydiner, A., Igci, A., & Soran, A. (n.d.). Breast Disease. In *Diagnosis and Pathology* (Vol. 1).
- Berkey, C. S., Tamimi, R. M., Willett, W. C., Rosner, B., Hickey, M., Toriola, A. T., Frazier, A. L., & Colditz, G. A. (2020). Adolescent alcohol, nuts, and fiber: combined effects on benign breast disease risk in young women. *Npj Breast Cancer*, 6(1), 61. <https://doi.org/10.1038/s41523-020-00206-4>
- Berkowitz, G. S., Canny, P. F., Vivolsi, V. A., Merino, M. J., O'connor, T. Z., & Kelsey, J. L. (2020). Cigarette smoking and benign breast disease*. In *Journal of Epidemiology and Community Health* (Vol. 39).
- Castells, X., Domingo, L., Corominas, J. M., Torá-Rocamora, I., Quintana, M. J., Baré, M., Vidal, C., Natal, C., Sánchez, M., Saladié, F., Ferrer, J., Vernet, M., Servitja, S., Rodríguez-Arana, A., Roman, M., Espinàs, J. A.,

- & Sala, M. (2020). Breast cancer risk after diagnosis by screening mammography of nonproliferative or proliferative benign breast disease: a study from a population-based screening program. *Breast Cancer Research and Treatment*, 149(1), 237–244.
<https://doi.org/10.1007/s10549-014-3208-z>
- Cerrato, F., & Labow, B. I. (2020). Diagnosis and management of fibroadenomas in the adolescent breast. *Seminars in Plastic Surgery*, 27(01), 23–25.
- Dinas Kesehatan. (2022). Profil Kesehatan Kabupaten Pekalongan Tahun 2022.
- Eka Fitri, A., & Khambri, D. (2022). Science Midwifery Risk Factor Analysis Of Fibroadenoma Mammae In Adolescent Girls In 2021. In *Science Midwifery* (Vol. 10, Issue 2). Online.
www.midwifery.iocspublisher.org
- Hebdon, M., Badger, T. A., Segrin, C., & Pasvogel, A. (2021). Social support and healthcare utilization of caregivers of Latinas with breast cancer. *Supportive Care in Cancer*, 29(8), 4395–4404.
<https://doi.org/10.1007/s00520-020-05983-z>
- Juliana, S. R., & Sari, D. E. A. (2020). GAMBARAN PENGETAHUAN DAN SIKAP MAHASISWI ANGKATAN XI, XII DAN XIII TENTANG FIBROADENOMA MAMMAE DI AKADEMI KEBIDANAN HUSADA GEMILANG. *Jurnal Kesehatan Husada Gemilang*, 3(2), 28–32.
- Kerr, J., Anderson, C., & Lippman, S. M. (2020). Physical activity, sedentary behaviour, diet, and cancer: an update and emerging new evidence. In *The Lancet Oncology* (Vol. 18, Issue 8, pp. e457–e471). Lancet Publishing Group.
[https://doi.org/10.1016/S1470-2045\(17\)30411-4](https://doi.org/10.1016/S1470-2045(17)30411-4)
- Li, J., Humphreys, K., Ho, P. J., Eriksson, M., Darai-Ramqvist, E., Lindström, L. S., Hall, P., & Czene, K. (2020). Breast fibroadenoma: History, Reproductive, and Lifestyle Risk Factors for Fibroadenoma and Breast Cancer. *JNCI Cancer Spectrum*, 2(3).
<https://doi.org/10.1093/JNCICS/PKY051>
- Limarta, C. A. (2021). Hubungan Usia dan Usia Menarche Terhadap Timbulnya Fibroadenoma Mammae Pada Mahasiswi Fakultas Kedokteran Universitas Yarsi Dan Tinjauannya Menurut Pandangan Islam. Doctoral Dissertation, Universitas YARSI.
- Nasyari, M., Husnah, H., & Fajriah, F. (2020). Hubungan Pola Makan Dengan Kejadian Tumor Payudara Di Rsud Dr. Zainoel Abidin Banda Aceh. *AVERROUS: Jurnal Kedokteran Dan Kesehatan Malikussaleh*, 6(1), 29–39.
- Pasek, M., Dębska, G., & Wojtyna, E. (2021). Perceived social support and the sense of coherence in patient–caregiver dyad versus acceptance of illness in cancer patients. *Journal of Clinical Nursing*, 26(23–24), 4985–4993.
<https://doi.org/10.1111/jocn.13997>
- Roza, A. (2020). Hubungan gaya hidup dengan kejadian hipertensi di Puskesmas Dumai Timur Dumai-Riau. *Jurnal Kesehatan STIKes Prima Nusantara Bukittinggi*, 7(1), 47–52.
- Sanjaya, S. J. (2022). Sanjaya, Stevanus Jutan. Profil Penderita Fibroadenoma Mammae di Rumah Sakit MRCCC Siloam Semanggi Tahun 2019-2020. Doctoral Dissertation, Universitas Kristen Indonesia.
- Setiadharna, A., Kuntjoro, R. R. L. P. W. S., & Utomo, A. W. (2020). HUBUNGAN PENGGUNAAN KONTRASEPSI HORMONAL TERHADAP KEJADIAN TUMOR PAYUDARA: STUDI PADA WANITA YANG MELAKUKAN PEMERIKSAAN ULTRASONOGRAFI PAYUDARA

DI RSUP DR. KARIADI DAN RS
KEN SARAS, SEMARANG.
JURNAL KEDOKTERAN
DIPONEGORO (DIPONEGORO
MEDICAL JOURNAL), 8(2), 892–
909.

- Skenderi, F., Krakonja, F., & Vranic, S. (2021). Infarcted fibroadenoma of the breast: Report of two new cases with review of the literature. *Diagnostic Pathology*, 8(1). <https://doi.org/10.1186/1746-1596-8-38>
- Soltanian, H., & Lee, M. (2020). Breast fibroadenomas in adolescents: current perspectives. *Adolescent Health, Medicine and Therapeutics*, 159. <https://doi.org/10.2147/ahmt.s55833>
- Wei, W., Wu, B. J., Wu, Y., Tong, Z. T., Zhong, F., & Hu, C. Y. (2021). Association between long-term ambient air pollution exposure and the risk of breast cancer: a systematic review and meta-analysis. *Environmental Science and Pollution Research*, 28(44), 63278–63296. <https://doi.org/10.1007/s11356-021-14903-5>
- Yulinda, A., & Fitriyah, N. (2020). Efektivitas penyuluhan metode ceramah dan audiovisual dalam meningkatkan pengetahuan dan sikap tentang sadari di SMKN 5 Surabaya. *Jurnal Promkes*, 6(2), 116–128.