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RELATIONSHIP BETWEEN AGE AND STAGE LEVEL WITH THE INCIDENT OF DEATH IN CA MAMAE PATIENTS AT M. YUNUS HOSPITAL, BENGKULU CITY.

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ABSTRACT

Ca mamae is one of the leading causes of morbidity and mortality among women worldwide, including in Indonesia. Data from M. Yunus Hospital, Bengkulu, showed an increasing number of breast cancer cases between 2022 and 2024, along with a rise in mortality rates. Age and cancer stage are assumed to be associated with mortality among breast cancer patients. This study aimed to determine the relationship between age and cancer stage with mortality in breast cancer patients at M. Yunus Hospital, Bengkulu, in 2022–2024.

This research employed an analytic case-control design. A total of 96 patients were included, consisting of 48 deceased patients (cases) and 48 surviving patients (controls) selected using total sampling and random sampling methods. Data were obtained from medical records and analyzed using Chi-Square and logistic regression tests.

The results showed that most deceased patients were >40 years old (75%) and nearly all were in advanced stages (III–IV) (97.9%). Bivariate analysis revealed no significant relationship between age and mortality (p=0.451; OR=0.600). Conversely, there was a significant association between cancer stage and mortality (p<0.001; OR=55.000).

In conclusion, age was not significantly associated with breast cancer mortality, whereas cancer stage showed a strong association. Early detection and treatment at earlier stages are crucial to reducing breast cancer mortality.

Keywords: breast cancer, age, stage, mortality

INTRODUCTION

Data shows that more than 2.3 million new cases of breast cancer emerged throughout 2020 and more than 685,000 deaths from breast cancer occurred, with incidence rates ranging from more than 40 per 100,000 women in some Asian and African countries to more than 80 per 100,000 in Australia or New Zealand, North America, and parts of Europe (Maulina 2023).

Breast cancer is the most common cancer diagnosed in women, accounting for more than 10 of all new cancer diagnoses each year. This disease is the second leading cause of cancer death in women worldwide (Suryani, 2025).

According to the Global Cancer Observatory (GLOBOCAN), in 2020, there were 65,858 cases of breast cancer in Indonesia (World Health Organization, 2022). In Indonesia, the mortality rate for breast cancer ranks first at 16.7%, or 58,256 million people, and the morbidity rate is 11%, or 22,692 million people (Suryani et al., 2025).

Risk factors for breast cancer are divided into two: non-modifiable risk factors and modifiable risk factors. Non-modifiable risk factors include gender, genetics, age, and heredity. Hormonal influences. Modifiable risk factors include unhealthy lifestyles such as obesity, unhealthy diets, alcohol consumption, smoking, oral contraceptive use, and stress.

In Bengkulu Province, in 2023, there were 365,316 women aged 30–50, of whom 8,768 (2%) received cervical and breast examinations using the IVA method. Percentage of breast tumors or lumps in women aged 30–50 who were screened. Fibroadenomas can be treated surgically. Fibrocystic changes are breast changes

caused by hormonal changes during the monthly menstrual cycle. This condition is a common cause of benign tumors in women aged 35–50. Lumps in one or both breasts increase in size before menstruation. In Bengkulu Province, the number of tumors or lumps in women aged 30–50 in 2023 was 67 (1%) (Bengkulu Provincial Health Office 2023).

Based on data from M. Yunus Hospital, Bengkulu City, it was found that the number of women who experienced the incident of Ca Mamae was 141 in 2022, experiencing an increase in patients to 199 women in 2023, in 2024 the number of female patients who experienced an increase again to 253 patients. The number of Ca Mamae patients who died in 2022 was 11 people, then in 2023 the number of Ca Mamae patients who died was 12 people, and in 2024 the number of Ca Mamae patients who died increased to 23 people.

MATERIALS AND METHODS

This research is quantitative with the type of research used is analytical research, which aims to understand the relationship or influence between different variables, or to compare opportunities between two or more groups using a case control design. This study was conducted with the aim of knowing the factors related to the death of breast cancer patients at M. Yunus Regional General Hospital, Bengkulu City. Secondary data collection was carried out on July 12 and 14, 2025. On July 12, researchers obtained 10 respondents, on July 13, 20 respondents were obtained, and on July 14, 18 respondents were obtained.

At this stage, researchers recorded the names of respondents, ages and stages of 48 breast cancer patients who died in the patient data book of the medical record room. Then on July 15-16, 2025, research continued to the oncology room to fulfill the data of patients who underwent breast cancer control. On July 15, researchers obtained 22 respondents, and on July 16, 26 respondents were obtained. The researcher recorded the names of respondents, age, stage and metastasis levels totaling 48 patients with breast cancer who were still under control in the registrar book and patient data. The researcher also completed the ethical feasibility test requirements so that on June 29, 2025, the ethical feasibility test in this study No. KEPK.BKL / 642/06/2025 was officially valid.

RESULTS AND DISCUSSION

RESULTS

1. Analisi Univariat

Tabel 4. 1 Distribution of Age and Stage Level with the Incidence of Death in Patients with Breast Cancer

Variabel	**Pasien Penderita *Ca Mamae***			
	Pasien Meninggal		Pasien Tidak Meninggal	
	n	%	n	%
Usia				
> 40 Tahun	36	75%	40	83,3%
≤ 40 Tahun	12	25%	8	16,7%
Tingkat Stadium				
Stadium I - II	1	2,1%	23	47,9%
Stadium III- IV	47	97,9%	25	52,1%

Based on table 4.2, it can be seen that the majority (75%) of breast cancer patients who died were aged > 40 years. Based on the stage level, it can be seen that almost all (97.9%) of patients who died were in the advanced stage (III–IV

2. Analisis Bivariat

Tabel 4. 2 Hubungan usia dan tingkat stadium, dengan kejadian kematian pada pasien Ca Mamae

No	**Variabel**	***Ca Mamae***				**Total**	***P - Value***	**OR**
		Pasien Meninggal		Pasien Tidak Meninggal				
		Jumlah	%	Jumlah	%			
1	**Usia**							
	> 40 Tahun	36	75,0	40	83,3	76	0,451	0,600

	< 40 Tahun	12	25,0	8	16,7	20		
	Total	48	100	48	100			
2	**Tingkat Stadium**							
	Stadium I - II	1	2,1	23	47,9	24	< 0,001	0,023
	Stadium III – IV	47	97,9	25	52,1	72		
	Total	48	100	48	100			

Uji Chi – Square

Based on table 4.2, it can be seen that almost all (75.0%) patients with breast cancer who died were aged > 40 years, with the results of the chi-square test showing a p-value of 0.451 and an odds ratio (OR) of 0.600, the stage level of almost all (97.9%) patients with breast cancer was stage III and IV, with the results of the chi-square test obtained a p-value < 0.001 and an OR of 55,000, which shows a very significant relationship.

DISCUSSION

1. The relationship between age and mortality of Ca Mamae patients at M. Yunus Hospital, Bengkulu City.

   Based on Table 4.1, almost 75% of breast cancer patients who died were aged >40 years. This study's results contradict the theory that age >40 is a risk factor for breast cancer, which states that approximately 8 out of 10 breast cancer cases occur in women over 40 years of age, and this condition most commonly affects postmenopausal women. Because during menopause, the immune system is significantly weakened and hormones become unstable in the body, resulting in a higher incidence of breast cancer in older adults (Sipayung et al. 2020).

   Based on Table 4.2, the chi-square test results obtained a p-value of 0.451 and an odds ratio (OR) of 0.600. A p-value >0.05 indicates that there is no significant association between patient age and mortality in breast cancer patients in this study. The OR value of 0.600 indicates that patients aged >40 years have a lower chance of dying compared to patients aged <40 years.

   This study aligns with research by Karihtala et al. (2021) that found that age had no significant association with breast cancer mortality. This is evident from the p-value of 0.475 > 0.05.

2. The relationship between the stage level and the death of patients with Ca Mamae at M. Yunus Hospital, Bengkulu City.

   Based on Table 4.1, it can be seen that almost all (97.9%) of the patients who died were in stages III and IV. This study aligns with the theory that cancer is the growth of abnormal body tissue cells that become malignant. These cells can grow further, causing death. Breast cancer is a group of abnormal cells in the breast that continue to multiply. Cancer stages can be classified based on T, N, and M stages (Abd. Mirsyad et al., 2022).

   Based on Table 4.2, the chi-square test results obtained a p-value <0.001 and an odds ratio (OR) of 0.023. This very small p-value indicates a significant relationship between cancer stage and mortality in breast cancer patients. With an OR of 0.023, patients with lower stages have a much lower chance of death compared to patients with advanced stages (stages III–IV). An OR value <1 also indicates that higher stage is a risk factor for death. Thus, the higher the stage of cancer experienced by the patient, the greater the risk of death that may occur.

CONCLUSION

Based on the results of the study entitled "The Relationship Between Age and Stage Level with the Incidence of Death in Patients with Breast Cancer at M. Yunus Hospital, Bengkulu City" it can be concluded as follows: The frequency distribution of the age of most of the patients with breast cancer who died was >40 years old, the distribution of stage levels of almost all patients who died were at stage III-IV. There is no significant relationship between age and death in patients with breast cancer. There is a significant relationship between stage level and death in patients with breast cancer.

REFERENCES

Abd. Mirsyad, Azis Beru Gani, Karim, M., Raeny Purnamasari, Karsa, N. S., Andi Husni Tanra, & Julia. (2022). Hubungan Usia Pasien Dengan Tingkat Stadium Kanker Payudara Di RS Ibnu Sina Makassar 2018. *Fakumi Medical Journal: Jurnal Mahasiswa Kedokteran*, *2*(2), 109–115. https://doi.org/10.33096/fmj.v2i2.48

Abdul Rahman, H., Zaim, S. N. N., Suhaimei, U. S., & Jamain, A. A. (2024). Prognostic Factors Associated with Breast Cancer-Specific Survival from 1995 to 2022: A Systematic Review and Meta-Analysis of 1,386,663 Cases from 30 Countries. *Diseases*, *12*(6). https://doi.org/10.3390/diseases12060111

Alsalamah RA, et al. Critical diagnostic delay thresholds in breast cancer: A molecular subtype-based causal analysis from Saudi Arabia. Cureus. 2025;17(3):e81106. DOI:10.7759/cureus.81106.

Daraz, F. G., Windarti, I., & Ayu Sangging, P. R. (2023). Role of Obesity in Breast Cancer Metastasis. *Medical Profession Journal of Lampung*, *13*(1), 172–178. https://doi.org/10.53089/medula.v13i1.562

Dinkes Provinsi Bengkulu. 2023. Profil Kesehatan Provinsi Bengkulu Tahun 2023. Dr. Elvera, SE., M.Sc., Yesita Astarina, SE., M. Si. 2021. Metodologi Penelitian. Yogyakarta: CV Andi Offset.

DR.DR. WULAN P.J KAUNANG, GRAD. DIP, M.KES, DK. 2024. "Buku Kanker Payudara." (December).

E. Koni suryaningsi., Bertiani E. Sukaca. 2013. Buku Kanker Payudara.

Elis Suryani, Nur Isnaini, Beta Sugiarso. 2025. "Hubungan Dukungan Keluarga dengan Tingkat Kecemasan pada Pasien Kanker Payudara (Ca Mammae)." Psychology Applied to Work: An Introduction to Industrial and Organizational Psychology, Tenth Edition Paul 53(9):1689–99.

Eni Susilowati. 2023. "Hubungan Fatigue Dengan Kualitas Hidup Pasien Ca Mammae Yang Menjalani Kemoterapi di RSUP Dr. Soeradji Tirtonegoro Klaten." Jurnal Kesehatan 15(1):140–49.

Kemenkes RI. 2015. Panduan Nasional Penanganan Kanker payudara.

Khayati, Nikmatul, Sri Rejeki, Machmudah Machmudah, Pawestri Pawestri, Yunie Armiyati, dan Roni Sianturi. 2021. "Upaya Peningkatan Pengetahuan dan Keterampilan Remaja Untuk Deteksi Dini Kanker Payudara Melalui Pemeriksaan Payudara Sendiri (SADARI)." SALUTA: Jurnal Pengabdian Kepada Masyarakat 1(1):25. doi: 10.26714/sjpkm.v1i1.8682.

Kim, N. H., Bang, H. W., Eom, Y. H., & Choi, S. H. (2022). The different prognostic impact of age according to individual molecular subtypes in breast cancer. *Annals of Surgical Treatment and Research*, *103*(3), 129–144. https://doi.org/10.4174/astr.2022.103.3.129

Legina Anggraeni, SST., MKM. Frida Putri Maharani, Amd. Keb. 2025. Pemanfaatan Leaflet Sebagai Media Edukasi Kesehatan : Pencegahan dan Deteksi Dini Kanker Payudara Pada Wanita Usia Subur.

Marwin, Dyah A. Perwitasari, Fredrick D. Purba, Susan F. Candradewi, Bayu P. Septiantoro. 2024. "Hubungan Karakteristik Terhadap Kualitas Hidup Pasien Kanker Payudara yang Menjalani Kemoterapi di RSUP Dr. Kariadi Semarang Relationship (." Jurnal Sains dan Kesehatan 3(1):242–47.

Maulina, Erna. 2023. Faktor - Faktor Yang Berhubungan Dengan Kualitas Hidup Paisen CA MAMMAE Yang Menjalani Kemoterapi Di RS PKU Muhammadiyah Gombong.

Nomiko, Debbie. 2020. "Faktor-Faktor yang Berhubungan dengan Kualitas Hidup Pasien Kanker Payudara di RSUD Raden Mattaher Jambi." Jurnal Ilmiah Universitas Batanghari Jambi 20(3):990. doi: 10.33087/jiubj.v20i3.1089.

Paji, Anastasia. 2021. "Hubungan antara siklus kemotrapi dengan kualitas hidup penderita kanker payudara diruang onkologi RSUD PROF. DR. W.Z,.JOHANNES KUPANG." Hal. 1–23 in.

Rohmah, D. A., Handoyo, Y., & Putri, L. (2024). Faktor yang mempengaruhi keterlambatan diagnosis kanker payudara di RSUD Gunung Jati. Jurnal Review Pendidikan dan Pengajaran, 7(4), 17246–17253. http://journal.universitaspahlawan.ac.id/index.php/jrpp

Rosa, Yolanda, Andi Siswandi, Selvia Anggraeni, dan Octa Reni Setiawati. 2022. "Hubungan dukungan keluarga terhadap kualitas hidup pada penderita kanker payudara yang sedang menjalani kemoterapi di rs abdul moeloek bandar lampung." Jurnal Kesehatan Tambusai 3:280–90.

Rumsilah, Rumsilah, Rossi Suparman, Esty Febriani, dan Mamlukah Mamlukah. 2024. "Analisis faktor-faktor yang mempengaruhi kualitas hidup pasien kanker payudara 1." Journal of Public Health Innovation (JPHI) 5(1):9–18. doi: 10.34305/jphi.v5i01.1422.

Sofya, Ayu, Nusyahbani Chusnul Novita, Muhammad Win Afgani, Muhammad Isnaini, Universitas Islam, Negeri Raden, dan Fatah Palembang. 2024. "Metode Survey : Explanatory Survey dan Cross Sectional dalam Penelitian Kuantitatif Survey Methods : Explanatory Survey and Cross Sectional in Quantitative Research." Edu Society: Jurnal Pendidikan, Ilmu Sosial, dan Pengabdian Kepada Masyarakat 4(3):1695–1708.

Toulasik, Naomi. 2019. Analisis Faktor yang berhubungan dengan Kualitas Hidup Wanita Penderita Kanker. Vol. 5.

Vina Asna Afifah dan Sarwoko. 2020. "Faktor-Faktor yang Mempengaruhi Kualitas Hidup Pasien Kanker Payudara yang Menjalani Kemoterapi"." Jurnal Komunikasi Kesehatan 11(1).

Yang, S. X., Hewitt, S. M., & Yu, J. (2022). Locoregional tumor burden and risk of mortality in metastatic breast cancer. *Npj Precision Oncology*, *6*(1), 1–7. https://doi.org/10.1038/s41698-022-00265-9

Zheng, Y. Z., Wang, X. M., Fan, L., & Shao, Z. M. (2021). Breast Cancer-Specific Mortality in Small-Sized Tumor with Stage IV Breast Cancer: A Population-Based Study. *Oncologist*, *26*(2), e241–e250. https://doi.org/10.1002/onco.13567