# Factors Influencing Early Detection of Breast Cancer Through Clinical Breast Examination (SADANIS) at the North City Health Center, Gorontalo City

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**ABSTRACT:** Early detection/screening is a secondary prevention effort that is considered the most rational to reduce the death rate due to breast cancer. Clinically early detection of breast cancer is carried out in the target group of women of childbearing age, but the priority for the early detection program in Indonesia is women aged 30-50 years. The research aims to analyze factors influencing early detection of breast cancer through clinical breast examination (SADANIS) at the North City Health Center, Gorontalo City. Analytical survey research method with a cross-sectional study design. The population is women aged 30-50 years who visited the KIA-KB services at the North City Health Center in February 2024, amounting to 136 visitors. Sampling used the Slovin formula, so the total sample was 101 people. Analysis was carried out using the chi-square test and multiple logistic regression test. Based on a multivariate test using a multiple logistic regression test on variables that influence early detection of breast cancer with SADANIS, namely family/husband support, health worker support, and exposure to information, the results obtained are that the family/husband support variable has a significant value of 0.027 <0.05 with a value of Exp(B) = 12.522 which means that family/husband support has a 12.52 times higher risk of influencing early detection of breast cancer. The conclusion of this study is The variable family/husband support is the variable that has the most influence on the early detection of breast cancer with SADANIS

**KEYWORDS:** SADANIS, Breast Cancer, family support.

## I. INTRODUCTION

Breast cancer ( Ca Mamae ) is the most commonly diagnosed cancer globally. In 2020, ± 2.3 million women were diagnosed with breast cancer, with 685,000 deaths globally. This makes breast cancer the most common malignant disease among women in 158 countries out of 183 countries (86%) and is the main cause of death from cancer in women in 107 countries out of 183 countries (95%). If the trend of breast cancer cases is not controlled, the burden of breast cancer is projected to be 2.74 million new cases and 857,000 deaths every year in 2030, and to be 3.19 million cases with 1.04 million deaths in 2040. This shows that there are no There are health ministries that can ignore breast cancer if they intend to treat cancer as a significant public health problem in their country (Ferlay J, 2020).

Meanwhile, data from Basic Health Research (RISKESDAS) 2018 shows that the number of cancer sufferers in Indonesia is increasing compared to the previous year. The general prevalence of cancer in Indonesia reaches 179 per 100,000 population with the incidence rate of breast cancer reaching 26 per 100,000 population (Ministry of Health of the Republic of Indonesia, 2018). The general cancer morbidity rate in Gorontalo Province also continues to increase from year to year. Based on data from the Gorontalo Provincial Health Service, the general cancer prevalence rate in 2013 reached 0.2% (2,195) of the total population (1,097,990 people). The prevalence rate of this cancer experienced a significant increase in 2018, reaching 2.6 % (30,822) of the total population (1,185,492 people) (Gorontalo, 2021).

In efforts to control breast cancer, the Indonesian government has decided that breast cancer prevention must be implemented sustainably, prioritizing promotive and preventive aspects for the community, accompanied by curative and rehabilitative individual health services aimed at increasing the scope of early detection of breast cancer. Early detection (early diagnosis) of breast cancer can be done by the public by carrying out Breast Self-Examination (SADARI) and Clinical Breast Examination (SADANIS) by health workers (Ministry of Health, 2017).

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Apart from knowledge, attitude variables can also influence SADANIS behavior. Negative attitudes towards SADANIS behavior are caused by emotional factors and a lack of responsive response to early detection of SADANIS. The less responsive response occurred because respondents did not know that breast cancer could occur at any time (Artha Sari & Subrata, 2022).

A person's perception of susceptibility to health problems can also have a major influence on breast examination behavior. Based on Tiara Juita's research on perceptions and behavior of clinical breast examination (SADANIS) in women of childbearing age in the Basuki Rahmat health center working area, Palembang City, a population that has low susceptibility is a protective factor against engaging in SADANIS behavior (Juita, 2021). The government, through the Minister of Health, issued a policy as a form of early cancer detection effort through Minister of Health Regulation Number 29 of 2017 concerning the Management of Breast Cancer and Cervical Cancer stating that breast control efforts can be realized through an early breast detection program through Clinical Breast Examination (SADANIS) and Breast Examination Alone (BE AWARE).

The strategic target for early detection of breast cancer through SADANIS in 2022 is 45% of the total female population aged 30-50 years. Coverage of early detection of breast cancer through SADANIS in Indonesia in 2022 will only be 10.76 %. This coverage is considered quite low compared to the target that has been set even though there has been an increase in examination coverage compared to coverage in 2019-2021 which only reached 1.3% of the total population (Ministry of Health of the Republic of Indonesia, 2022). Nationally, Gorontalo Province is one of the 5 provinces with the lowest coverage of early breast cancer detection through SADANIS in 2022, reaching 1.25% of 177,703 women aged 30-50 years in Gorontalo (P2P Director General, 2022).

In 2023, the target indicator for early detection of breast cancer through SADANIS is 70% of the total population at risk. Early breast cancer detection coverage through SADANIS Gorontalo Province reaches 11% of the total population at risk. Even though this coverage has increased from the previous year, this coverage is still quite low from the target set. Based on the results of the performance evaluation of non-communicable disease programs per district/city, Gorontalo City is the area with the lowest SADANIS coverage, reaching only 1% of the target of 24,837 women aged 30-50 and the highest SADANIS coverage is in Bone Bolango Regency with 35% coverage (5887 examinations ) of 16,854 women aged 30-50 years.

Furthermore, based on data from the Gorontalo City Health Service, the North City Health Center is a health center that is included in the low coverage of early breast cancer detection (SADANIS) during the 2022-2023 period with coverage of early breast cancer detection through SADANIS reaching 0% in 2022 and 2023. This can result in a low number of breast cancer cases being discovered at an early/early stage, which can also result in treatment efforts to cure, extend life expectancy, and improve the quality of life of cancer sufferers not being implemented optimally.

Based on the initial survey conducted at the North City Health Center, it was found that early detection of breast cancer at the North City Health Center was carried out simultaneously with early detection of cervical cancer. The examination schedule is carried out every day according to the Puskesmas service schedule, however, based on the results of researchers' observations at the North City Puskesmas, there is no special notification regarding clinical breast examinations (SADANIS) which can be accessed by the public at the puskesmas, such as delivery through the registration counter or health workers during service or through information media such as leaflets, banners, etc. The service is provided if there is a patient who independently wants to undergo a SADANIS examination. Public interest in carrying out examinations is very low due to embarrassment and fear of carrying out breast examinations. These are the results of interviews with several family posyandu visitors in Dembe 1 Subdistrict, Kota Utara District. Several mothers who were interviewed about SADANIS stated that they did not know about SADANIS, and had never carried out a SADANIS examination. Some of the mothers interviewed already knew about SADANIS but were not willing to have SADANIS done because they were embarrassed to have their breasts examined and were afraid that the results of the examination would reveal serious health problems.

From the above background, researchers are interested in researching "Factors that Influence Early Detection of Breast Cancer through Clinical Breast Examination (SADANIS) at the North City Health Center, Gorontalo City"

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## II. RESEARCH METHODS

This research was carried out at PKM North City, Gorontalo City. This research was carried out in March 2024. This research uses an analytical research design with a cross-sectional study research design, which is a study that studies the correlation between exposure or risk factors (independent) and consequences or effects (dependent) where research data collection is carried out simultaneously. at one time between risk factors and their effects (point time approach) Irwan (2022). The population used is a survey population where the total research population is the number of women aged 30-50 years who visited the KIA-KB services at the North City Health Center in February 2024 amounting to 136 visitors. Determining the number of samples in this research was done by using a sampling technique. So the sample size required for this research is 101 samples. Multivariate analysis is a method in statistics where the calculations are done through data processing such as SPSS. In this research, we use multivariate analysis of the logistic regression type, where logistic regression can predict the dependent variable on a dichotomous scale. The dichotomous scale in question is a nominal or ordinal data scale with two categories.

## III. RESULTS AND DISCUSSION

### Multivariate Analysis

The multivariate test used in this research is the logistic regression test. The logistic regression test is an analytical method used to determine whether or not there is an influence between one or several independent variables and one dependent variable. In logistic regression, the dependent variable is non-parametric and has category values such as nominal data and ordinal data categories. Meanwhile, independent variables can be parametric non-parametric, or a combination of both. In the logistic regression test, there is no need to test clinical assumptions or test data normality. In the logistic regression test, there are 2 models, namely the binary logistic regression test which can predict the relationship between 2 categorical data, while the multinomial test can predict more than 2 categorical data. The stages in logistic regression are as follows:

### Multiple Logistic Regression Test

Multiple logistic regression test is a test that uses more than one independent variable/multivariate case. The requirements for the multiple regression test are that the data used is data with a categorical measurement scale (ordinal/nominal) and the data does not have to be normally distributed.

The advantages of the logistic regression test are

1) Suitable for use in the health sector, especially in the field of epidemiology
2) Can predict the risk of a disease resulting from exposure in a cohort research design
3) Can be used to determine the influence of several independent variables on the dependent variable

The stage before carrying out the multiple logistic regression test is to carry out bivariate selection on variables that can take part in the multivariate logistic regression test, namely variables that have a significant value of <0.05 or independent variables that influence the dependent variable.

The following is a bivariate selection table for multiple logistic regression tests based on the results of bivariate tests conducted by researchers:

**Table 1. Bivariate Selection Table**

| Variable | P value | Note |
|---|---|---|
| Knowledge | 0.707 | Not eligible |
| Attitude | 0.176 | Not eligible |
| Perception | 0.462 | Not eligible |
| Family/Husband Support | 0.006 | Qualify |
| Health Worker Support | 0,000 | Qualify |
| Information Exposure | 0.028 | Qualify |
| Accessibility | 0.744 | Not eligible |

*(**Source:** Primary Data, 2024)*

Based on Table 1 it is known that the variables that meet the requirements to be able to take part in the multivariate test are the variables of family/husband support, health worker support, and exposure to information. The hypothesis used in this multiple logistic regression test is "There are factors that most influence early detection of breast cancer through SADANIS in the PKM area of North City, Gorontalo City"

**Factors Influencing Early Detection of Breast Cancer Through Clinical Breast Examination (SADANIS) at the North City Health Center, Gorontalo City**

**Table 2. Categorical Model Variable Table**

| | Model Variables | | | | | | |
|---|---|---|---|---|---|---|---|
| | | B | S.E | Wald | df | Sig. | Exp(B) |
| Step 1 [a] | FamilySupport_X4(1) | 1,204 | 1,271 | ,897 | 1 | ,344 | 3,333 |
| | SupportOfficer_X5(1) | 18,831 | 4.078E3 | ,000 | 1 | ,996 | 1.508E8 |
| | ExposureInformation_X6(1) | 18,193 | 4.747E3 | ,000 | 1 | ,997 | 7.960E7 |
| | Constant | -38,633 | 6.258E3 | ,000 | 1 | ,995 | ,000 |
| Step 2 [a] | FamilySupport_X4(1) | ,780 | 1,228 | .404 | 1 | ,525 | 2,182 |
| | SupportOfficer_X5(1) | 19,568 | 4.527E3 | ,000 | 1 | ,997 | 3.149E8 |
| | Constant | -21,360 | 4.527E3 | ,000 | 1 | ,996 | ,000 |
| Step 3 [a] | FamilySupport_X4(1) | 2,527 | 1,143 | 4,886 | 1 | ,027 | 12,522 |
| | Constant | -4,277 | 1,007 | 18,039 | 1 | ,000 | .014 |

Based on the research results, it is known that of the 3 variables that influence early detection with clinical breast examination through SADANIS at the North City Health Center, Gorontalo City, the family support variable is the variable that has a significant value of 0.027 (< 0.05 ) which means that the family/husband support variable is The variable that has the most influence on early detection with clinical breast examination via SADANIS.

Based on the *Exp (B) value* of the family/husband support variable of 12.52, this means that family/husband support has a 12.52 times greater risk of influencing respondents not to carry out early detection with clinical breast examination via SADANIS compared to other variables mentioned. influential.

**IV. CONCLUSION**

The family/husband support variable is the variable that has the most influence on the early detection of breast cancer with SADANIS with a significant value or Sig. (2-tailed) is 0.027 < 0.05 and the ExpB value is 12.52.

**REFERENCES**
1) Ananda, S., Sari, M., Handayani, T. L., & Harini, R. (2022). Studi Literatur : Identifikasi Faktor - Faktor yang Mempengaruhi Perilaku SADARI Sebagai Deteksi Dini Kanker Payudara. 2(2), 64–74.
2) Artha Sari, N. P. Y., & Subrata, I. . (2022). Hubungan Tingkat Pengetahuan dan Sikap Dengan Perilaku Ibu Rumah Tangga Terkait Pemeriksaan Payudara Klinis (SADANIS) di Wilayah Kerja Kerja Puskesmas Kuta Selatan Saat Pandemi Covid-19. 9(3), 439–450.
3) Ayu, I. D., & Rayanti, M. E. Y. (2021). Hubungan Dukungan Tenaga Kesehatan Dengan Perilaku SADARI Sebagai Deteksi Dini Kanker Payudara Pada Remaja Putri Di SMA Negeri Mengwi.
4) Ayu, I. G., & Juliantari, S. (2022). Hubungan dukungan keluarga dengan perilaku pemeriksaan payudara sendiri (sadari) pada remaja putri.
5) Balali, G. I., Yar, D. D., Dela, V. G. A., Effah-Yeboah, E., Asumang, P., Akoto, J. D., & Abdallah, F. (2020). Breast Cancer: A Review of Mammography and Clinical Breast Examination for Early Detection of Cancer. OALib, 07(10), 1–19. https://doi.org/10.4236/oalib.1106866
6) Balalil, G. I., Yar, D. D., Gobe, V., & Dela, A. (2020). Kanker Payudara : Tinjauan tentang Mamografi dan Pemeriksaan Payudara Klinis untuk Deteksi Dini Kanker. 7. https://doi.org/10.4236/oalib.1106866
7) CDC. (2023). What Are the Symptoms of Breast Cancer CDC. Https://Www-Cdc-Gov.Translate.Goog/Cancer/Breast/Basic_info/Symptoms.Htm?_x_tr_sl=en&_x_tr_tl=id&_x_tr_hl=id&_x_tr_pto=tc.
8) Darwati, L., Nikmah, K., Nur, M., & Aziz, A. (2021). Sosialisasi SADARI ( Pemeriksaan Payudara Sendiri ) sebagai upaya awal pencegahan Ca Mamae. 4(2), 325–331.
9) Elintina. (2021). Faktor-Faktor Yang Mempengaruhi Perilaku Deteksi Dini Kanker Payudara Dengan Sadari Pada Wanita Di Desa Babulo Utara Kecamatan Pamboang Kab. Majene.
10) Ezema, R., CC, I., & Iwuagwu TE, et al. (2021). Association of Sociodemographic Factors, Breast Cancer Fear, and Perceived Self-Efficacy With Breast Cancer Screening Behaviors Among Middle-Aged Nigerian Women. Breast Cancer.

**Factors Influencing Early Detection of Breast Cancer Through Clinical Breast Examination (SADANIS) at the North City Health Center, Gorontalo City**

Doi:10.1177/1178223421104.

11) Ferlay J, et al. (2020). Global Breast Cancer Initiative Implementation Framework Global Breast Cancer Initiative Implementation Kemenkes RI. (2019). No Title Laporan Riskesdas 2018 Kementerian Kesehatan Republik Indonesia.Framework. https://gco.iarc.fr/today

12) Firrahmawati, L., Kusumadewi, R. R., Kustiyati, S., & Mahmudah, I. N. (2021). Pengetahuan tentang Kanker Payudara dan Pola Konsumsi Isoflavon dari Produk Olahan Kedelai pada Remaja Putri. 8(October), 30–37.

13) Gorontalo, D. K. P. (2021). Kesehatan. In Profil 2021 (Vol. 3).

14) Irwan. (2017). Etika dan Perilaku esehatan.

15) Juita, T. (2021). Persepsi Dan Perilaku Periksa Payudara Klinis (SADANIS) Pada Wanita Usia Subur Di Wilayah Kerja Puskesmas Basuki Rahmat Kota Palembang.

16) Juwita, L., Prabasari, N. A., Studi, P., Keperawatan, I., Katolik, U., & Mandala, W. (2022). Pengetahuan Pemeriksaan Payudara Sendiri (SADARI) Terhadap Sikap dan Perilaku Pada Remaja Putri. 4(2), 11–17.

17) Kemenkes. (2017). Peraturan Menteri Kesehatan Republik Indonesia Nomor 29 Tahun 2017 tentang Penanggulangan Kanker Payudara dan Kanker Leher Rahim. Peraturan Menteri Kesehatan Republik Indonesia, 1–40. http://hukor.kemkes.go.id/uploads/produk_hukum/PMK_No._29_ttg_Penanggulangan_Kanker_Payudara_dan_Kank er_Leher_Rahim_.pdf

18) Kemenkes RI. (2018). Laporan Riskesdas 2018 Kementrian Kesehatan Republik Indonesia. In Laporan Nasional Riskesdas 2018 (Vol. 53, Issue 9, pp. 154–165). http://www.yankes.kemkes.go.id/assets/downloads/PMK No. 57 Tahun 2013 tentang PTRM.pdf

19) Kemenkes RI. (2022). Profil Kesehatan Indonesia 2021. In Pusdatin.Kemenkes.Go.Id.

20) Nopiani, I. G. A. Y. U. (2019). Hubungan Keterpaparan Informasi Tentang Pemeriksaan Payudara Sendiri (SADARI) Terhadap Persepsi dan Perilaku Deteksi Dini Kanker Payudara Pada Remaja Putri di SMK Pariwisata Kertayasa, 2019.

21) Nurhayati, S., Suwarni, L., Widyastutik, O., Kesehatan, F. I., Pontianak, U. M., & Artikel, I. (2019). Jurnal Mahasiswa dan Penelitian Kesehatan Faktor-faktor yang Berhubungan dengan Pemeriksaan Payudara Klinis (SADANIS) pada WUS di Puskesmas Alianyang Pontianak 1. 1(1), 16–26.

22) Oktaviana, M. . (2015). Hubugan Antara Persepsi Kerentanan Individu, Keseriusan Penyakit, Manfaat dan Hambatan Dengan Penggunaan Skrining Inspeksi Visual Asam Asetat Pada Wanita Usia Subur.

23) P2P Dirjen. (2022). Laporan Kinerja Direktorat Jenderal Pencegahan dan Pengendalian Penyakit. Kemkes, 1–114. https://e-renggar.kemkes.go.id/file2018/e-performance/1-465827-3tahunan-768.pdf

24) Pakpahan, M., Siregar, D., Susilawaty, A., & Manurung, E. I. (2021). Promosi Kesehatan dan Perilaku Kesehatn.

25) Pradnyandari, A. a. (2022). Faktor - Faktor Berhubungan Dengan Perilaku Sadari Pada Wanita Usia Subur Di Wilayah Kelurahan Sempidi. 10, 80–93.

26) Purbasari, S., & Septiannisa, E. (2020). Perancangan Booklet Mengenai Program Periksa Payudara Sendiri ( SADARI ) Sebagai Media Kampanye Untuk Pelajar Remaja Putri Sekolah Menengah Pertama Di Kota Bandung. 03(02), 207–230.

27) Rachmawati W.C. (2019). Promosi Kesehatan dan Ilmu Perilaku.

28) Rizki, S., Putri, S., & L, M. D. (2023). Faktor-Faktor yang Berhubungan dengan Perilaku Deteksi Dini Kanker Payudara dengan Metode SADANIS. 9(1), 40–45.

29) Saraswati, P. S. (2019). Pengaruh Media Whatsapp Dan Leaflet Terhadap Pemeriksaan Payudara Sendiri Pada Siswi Sekolah Menengah Atas Di Kota Kendari. 11, 107–117.

30) Siskia, Putri, I. M., & Utami, F. S. (2023). Tingkat Pengetahuan, Keterpaparan Informasi, dan Dukungan Tenaga Kesehatan Berhubungan dengan Perilaku Pemeriksaan Payudara Klinis (SADANIS) Pada wanita di Kelurahan Bantul Kecamatan Bantul, Bantul Yogyakarta. 10(1), 85–100.

31) Studi, P., Rumah, M., Program, S., Universitas, P., Yogyakarta, M., Layanan, P. K., Pasien, K., Jalan, R., Paru, R. S., & Wirawan, A. (2017). Pengaruh Kualitas Layanan terhadap Kepuasan dan Kepercayaan Pasien Rawat Jalan di RS Paru dr. Ario Wirawan Salatiga". 127–158.