Early Detection Program for Breast and Cervical Cancer in Indonesia: How is Implementation?

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DOI: 10.24252/al-sihah.v14i2.33508
Received: 22 September 2022 / In Reviewed: 16 October 2022 / Accepted: 18 December 2022 / Available online: 30 December 2022

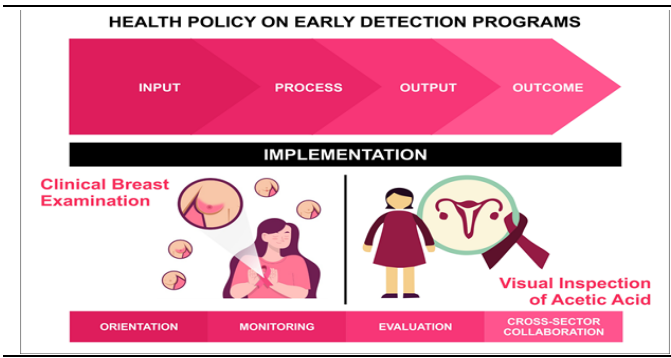
ABSTRACT

Breast and cervical cancer have ranked first and second in terms of the highest cancer cases in Indonesia. The high incidence of breast and cervical cancer is due to the low coverage of early detection. This study aimed to examine the implementation of breast cancer early detection programs using the SADANIS method and cervical cancer using the IVA method. This current study used a qualitative and descriptive approach through input, process, output, and impact variables. Data was collected through in-depth interviews, observation, and documentation review. The results revealed that the number of trained human resources, facilities, and infrastructure was sufficient. The program had also implemented online and offline information systems and was actively conducting inspections integrated with the "Family Planning" program. The high achievement of the program had also been supported by the existence of an innovative screening system and direct examination in the community. The program achievements for 2021-2022 (January-June) and cases of cervical cancer had decreased. Implementing the early detection program for breast and cervical cancer is considered better. It can thus become a model for other regencies.

ABSTRAK

Kanker payudara dan kanker serviks menempati peringkat pertama dan kedua jumlah kasus kanker tertinggi di Indonesia. Tingginya kasus kanker payudara dan serviks disebabkan karena rendahnya cakupan deteksi dini yang dilakukan. Penelitian ini bertujuan untuk mengkaji secara mendalam implementasi program deteksi dini kanker payudara dengan metode SADANIS dan kanker serviks dengan metode IVA. Jenis penelitian ini adalah kualitatif dan pendekatan deskriptif dengan menggunakan variabel masukan, proses, keluaran, dan dampak. Pengumpulan data dilakukan melalui wawancara mendalam, observasi, dan telaah dokumentasi. Hasil penelitian menunjukkan bahwa jumlah SDM terlatih serta sarana dan prasarana telah memadai. Program juga telah menerapkan sistem informasi secara online dan offline serta aktif melakukan pemeriksaan yang terintegrasi dengan program "Keluarga Berencana". Tingginya capaian program juga didukung oleh adanya inovasi sistem penjaringan dan pemeriksaan secara langsung di masyarakat. Adapun capaian program tahun 2021-2022 (Januari-Juni), dan kasus kanker serviks mengalami penurunan. Implementasi program deteksi dini kanker payudara dan kanker serviks dinilai lebih baik sehingga dapat menjadi percontohan bagi kabupaten lainnya.

GRAPHICAL ABSTRACT



Keyword
breast cancer detection
cancer screening
cervical cancer detection
early detection program
implementation of program

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ISSN-P : 2086-2040
ISSN-E : 2548-5334

INTRODUCTION

Cancer is a disease caused by the presence of cells and tissues in the body that grow abnormally, are malignant, develop quickly, are uncontrollable, and spread to other cells/tissues (Chandraprasad et al., 2022; Prasad et al., 2020). Cancer accounts for 30% of all premature deaths in adults aged 30-69 years worldwide, or approximately 4.5 million cases. According to data published by WHO, cancer cases are increasing yearly. In 2008, there were 12.6 million cancer cases worldwide; in 2018, there were 18.1 million cases, with 9.6 million deaths; and in 2020, there will be 19.2 million cases. According to WHO, the number of cancer cases will increase to 29.4 million cases by 2040 (World Health Organization, 2020b).

There will be 19,292,789 new cases of cancer in the world in 2020, with a total mortality of 9,958,133 cases. Cancer is now the leading cause of death in 112 of the world's 183 countries. Breast cancer has the highest number of new cases worldwide, with 2,261,419 cases, or approximately 11.7%. (World Health Organization, 2020c). Breast cancer is the leading cause of cancer deaths in Indonesia. Breast cancer will affect 65,858 people in the United States in 2020, accounting for approximately 16.6% of all cases. *(*World Health Organization, 2020a*)*.

The significance of the breast and cervical cancer problem in Indonesia is influenced by healthcare facilities' efforts to identify potential cases. The Ministry of Health of the Republic of Indonesia has established in the Work Action Plan for 2020-2024 that the target of early detection of cervical cancer using the IVA method and breast cancer using the SADANIS method in 80% of the female population aged 30-50 years can be achieved by 283 regencies/cities in Indonesia. However, according to the Ministry of Health's P2PTM Performance Report for 2020, no district/city has met this target. (Ministry of Health Republic of Indonesia, 2021).

This program is the starting point of Indonesia's breast and cervical cancer epidemic. In South Sulawesi Province, regional coverage for early cervical and breast cancer detection was only 3.4% in 2018-2020. South Sulawesi Province is ranked 10th in Indonesia for having the lowest early detection coverage (Ministry of Health Republic of Indonesia). In 2019, the percentage of cervical and breast cancers detected early in women aged 30-50 years in South Sulawesi was 104,360 people (South Sulawesi Provincial Health Office, 2020). This coverage dropped the following year significantly, with South Sulawesi having only 21,484 people, or around 0.85%, covered by early detection in 2020. (South Sulawesi Provincial Health Office, 2021b).

This data is unquestionably far from the Indonesian Ministry of Health's target of 80% of females aged 30-50. According to the Annual Report for the 2021 Cancer Disease and Blood Disorders Program at the South Sulawesi Provincial Health Office, from 2018 to 2020, the early detection of cervical cancer using the IVA method and breast cancer using the SADANIS method around 388,527 people, or approximately 29.40%. Meanwhile, only 150,339 people, or 11.38%, were examined in 2021. According to the report's findings, no districts/cities in South Sulawesi Province have met the target. Sinjai Regency had the highest achievement rate, with 66.81%. (South Sulawesi Provincial Health Office, 2021a).

Several previous studies have reported various forms of cancer prevention and early detection implementation. For example, Alterbeck et al. (2022) implemented a prostate cancer screening program, DeGroff et al. (2021) developed an early detection program for cervical cancer and breast cancer in the United States, and Birnbaum et al. (2018) developed a

model of an early detection strategy for breast cancer in low and middle-income countries. Meanwhile, several regions in Indonesia have reported that female determinants perform early detection of cancer in cancer. Nuryana et al. (2020) in North Takalar, Juwitasari (2021) in East Java, and Azlina et al. (2021) in New Banjar, to name a few. However, to the author's knowledge, no study has been conducted focusing on the scope of program evaluation (input, process, output, and impact). Each of these variables has a more detailed sub-section that examines the implementation of breast cancer early detection programs using the SADANIS method and cervical cancer programs using the IVA method. Researchers discovered that early detection of breast and cervical cancer coverage in Indonesia is a public health issue that must be prioritized for resolution. As a result, this research aimed to investigate the implementation of an early detection program for breast cancer using the clinical breast examination method (SADANIS) and cervical cancer using the visual acetic acid inspection method (IVA) in Sinjai District, Indonesia.

METHODS

This study was qualitative, using a descriptive approach. This study was carried out in Sinjai Regency in June and July 2022. Notably, it was carried out at Sinjai District Health Office, Aska Primary Public Health Care, Balangnipa Primary Public Health Care, Manimpahoi Primary Public Health Care, and the Sinjai Regional General Hospital in Sinjai District.

In this study, key informants included the Head of the Disease Prevention and Control Division at the Health Office, the Head of the Primary Public Health Care and the person in charge/executor of the program, and Women of reproductive age (WUS) who had conducted early detection using the SADANIS and IVA methods as supporting informants. Purposive sampling was used to select informants for this study. Meanwhile, it was carried out accidentally to determine of women of reproductive age; this technique was thought to make it easier for researchers to find the right informants because they could be assisted by midwives/program implementers. Table 1 shows the characteristics of the respondents.

This study involved 20 informants, with details on 2 key informants, 12 primary informants, and 6 supporting informants. Informants are chosen based on several criteria, including having served as the head of the department or the head of the Primary Public Health Care, or the Person in charge of the program since at least 2022, being physically and mentally healthy and residing in the local district. They conducted early detection of breast cancer using the SADANIS method for female informants of childbearing age and cervical cancer using the IVA method.

In-depth interviews, observations, and document reviews were used to collect data for this study. Interviews were conducted following prepared interview guidelines, which were then modified in response to field conditions. The researchers used semi-structured in-depth interviews, also known as guided interviews. The interview guideline for this study was designed to include input, process, output, and impact variables related to the early detection program for breast and cervical cancer. Researchers observed the program using prepared observation guidelines, which covered the facilities and infrastructure used to support program implementation.

One method of data collection is document review. The documentation guidelines in this study included all types of supporting documents for research variables relevant to the research, such as regulations, meeting minutes, diaries, activity photos, and activity reports. In addition, a checklist sheet with data on pro-

gram coverage, case findings, and morbidity and mortality rates from breast and cervical cancer was created.

In this study, presenting and analyzing data includes data reduction, data presentation, conclusion, and verification. Researchers used a triangulation test of credibility and reference materials to assess the data's validity. This study had a certificate of ethical acceptance that was issued by the Health Ethics Commission of the Medicine Health and Science, Universitas Islam Negeri Alauddin.

RESULTS

Input

Based on the interviews' findings, it was evident that each Public Primary Health Care (Puskesmas) had a sufficient quantity of implementing personnel. However, not all had completed training. In 2016, the Ministry of Health of Republic of Indonesia, the South Sulawesi Provincial Health Office, and the Sinjai District Health Office collaborated on a training activity with participants serving as Doctors and Midwives coordinators from each Public Health Service.

> *"..this activity is carried out by midwives; if there are many midwives at* Puskesmas*, there are; it's just a matter of competence; not all of them have ever been trained... all of those who have been trained are 'Bikor', coordinating midwives. We hope the one will teach and train the* Puskesmas*' members..."*
> (A, 53 years old, key informant)

The Puskesmas also had a separate room for SADANIS-IVA exams and was still part of the family planning program. The informant stated that the one had already obtained a disposable speculum from the Health Office.

> *"..there are disposable tools that are useful only once…"*
> (S, 49 years old, key informant)

The examined people stated that the available examination points were safe, comfortable, and equipped with all the necessary tools and materials.

> *"..at the hospital. It's comfy. The tools and materials are completed…."*
> (R, 35, supporting informant)

Other informants emphasized that the SADANIS-IVA program manager already had guidelines and followed them.

> *"..they just worked based on guidelines. They have the guidelines…."*
> (H, 38 years old, key informant)

The current information system was in the process of switching from the SI-PTM application to the ASIK application. This application covered all early detection efforts by inputting everyone who had performed the examination, including SADANIS-IVA.

> *"..now there is an application from the ministry of health, namely ASIK, 'Aplikasi Sehat IndonesiaKu,' early detection was coming from here…."*
> (H, 38 years old, key informant)

The transportation cost for officers to carry out inspection activities, such as at the Integrated Health Care Center, the Auxiliary Health Care, and so on, was paid for by the Puskesmas' Health Operational Assistance (BOK) funds. Meanwhile, the District Health Office managed the APBD, which covered the costs of procuring tools and materials.

> *"..the funding by office operational cost of a* Puskesmas*, yes BOK. So, they are all covered for program activity…. at Integrated Health Care Center or Auxiliary Health Care…. Other operations, such as equipment and materials, are handled by the Health Department., yes APBD…."*
> (A, 53 years old, key informant)

Active SADANIS-IVA examinations were conducted in collaboration with various

government agencies before the Covid-19 pandemic. Meanwhile, the implementing staff performed inspections in the sub-districts monthly. The inspection site was typically conducted at the home of a community leader, such as the head of the neighborhood, while still paying attention to the situation and conditions.

> *"..we did activity every month at subdistrict… Examine the situation in people's homes, such as the neighborhood pack's house, and then look at the situation in their room. ..."*
> (R, 52 years old, key informant)

Process

Socialization activities for the SADANIS-IVA program were typically conducted with reproductive health socialization. Midwives, MCH officers, village midwives, and the Health Office were among those involved in the outreach efforts.

> *"..for socialization, we stay at the Posyandu. Arrange socialization about reproductive health, yes, because our target at PUS...."*
> (SR, 44 years old, Key informant)

Usually, health promotion activities took place in Integrated Health Care Center (Posyandu) and Integrated Development Post (Posbindu). In addition to the conversation option, media stickers promoting the SADANIS-IVA initiative were placed in public areas, including the Posyandu. The flipchart was yet another tool that was frequently utilized for cervical and breast cancer early detection.

> *"..mostly, health promotor... he discourses and has many stickers, stuck at Posyandu in public space ...."*
> (M, 41 years old, main informant)

With the highest achievement, Puskesmas in the Sinjai District developed and created an invention for this program. A woman who had already completed an examination would be asked if she would encourage one or more other women to conduct an investigation. This innovation was the IVA-SADANIS Multi-Level Marketing (MLM) system. Additionally, the Puskesmas and the village government signed an agreement to designate one of the hamlets in the village as a pilot hamlet, with 80 to 85 percent of the Women of Reproductive Age conducting inspections. The lack of benefits for those who ask others to conduct inspections is one of the disadvantages, though, due to a lack of money.

> *"..if teenagers, I stay to reach out at Secondary School to teach them about SADARI. If he has positive IVA, yesterday we found it and sent it to cryotherapy at Sinjai in Balangnipa Puskesmas... Supporting factors are the best from the family, community, and local stakeholders. Government's support had MOU to focus on IVA-SADANIS...we had innovation, it is in form MLM, Multi-level marketing, so the mother who has examined...if possible, to ask another woman to be examined..."*
> (SR, 44 years old, Main informant)

Other informants also identified the community's shame as a barrier to this program's implementation. Therefore, the wife needed her husband's support, active education, and an excellent example for society.

> *"..the shame-based culture was the impediment. The husband backs everyone. Therefore, we must impart knowledge and serve as role models...."*
> (A, 50 years old, Main Informant)

Output

According to informants, program achievement had decreased; a lack of sociability and an understaffed workforce brought on this program. As a result, training initiatives and local government assistance were required. The SADANIS-IVA program was one of the puskesmas' attempts to suggest an activity plan for the hamlet.

Table 1
Characteristics of Informants

Initial	Status	Age	Sex	Education	Job
R	General	52	P	Master	Person in charge
R	Supporting	35	P	Bachelor	Civil servants/WUS
A	Key	53	P	Master	Head of division P2P
M	Main	41	P	Bachelor	Head of administration
S	Supporting	36	P	Diploma IV	Civil servants/WUS
S	Main	49	P	Diploma III	Person in charge
SR	Main	44	P	Diploma IV	Person in charge
A	Supporting	32	P	Diploma III	Volunteer/ WUS
A	Main	50	L	Bachelor	Head of Puskesmas
H	Main	38	P	Bachelor	Head of Puskesmas

Note: WUS: Women of reproductive age; P2P: Disease Prevention and Control; Puskesmas: Public Primary Health Care

> *"..yes, needed training, government' support needs...now achievement decreasing. Automatic case finding decreased…."*
> (S, 49 years old, main informant)

There were many persons interested in doing the SADANIS-IVA test. It occurred as a result of the networking system that was used. A hospital referral will be made if precancerous lesions or masses are discovered.

> *"..there are many persons interested, most people in the place that has many Puskesmas because it has connection... like multi-level marketing, connect to connect…."*
> (A, 32 years old, Supporting Informant)

Outcome

According to the findings of the interviews, it was known that the Health Office and healthcentre did not have precise information on the incidence of and mortality from breast and cervical cancer. The hospital was where you could get this information.

> *"..the mortality rate is connected to cancer. We lack specific information ...."*
> (A, 53 years old, key informant)

The informant also cited several case findings, such as a cervix problem that had resulted in cancer, a cervical infection, and breast tumors. There were other instances of breast cancer-related deaths.

> *".. there's already a case. It's no longer positive for IVA. It's already leading to cancer…. If IVA is positive, nothing, just lots of cervical infections…."*
> (S, 49 years old, Main Informant)

Observation

Based on observations made on examination facilities and infrastructure at the Balannipa Puskesmas, it was discovered that there were sufficient and in good condition inspection sites, as well as tools and materials. Spotlights, sterilized and disposable speculums, plastic containers, aluminum containers, buckets, cotton swabs, wooden spatulas, vinegar/ acetic acid, speculum jelly (also used as a lubricant for SADANIS), gloves, cleaning cloths, and a belly cover are all available. Aside from that, some posters and flipcharts were used as public promotion and education media. Cryotherapy equipment was also available at the Balangnipa Puskesmas, the only one in Sinjai.

The facilities and infrastructure at the Manimpahoi Puskesmas were adequate. Still, they lacked some items, including a wooden spatula, a cleaning cloth, and a cloth to cover the client's stomach. According to the program

Table 2
SADANIS-IVA examination facilities and infrastructure

Facilities & Infrastructure	Availability in Public Primary Health Care		
	Aska	Balangnipa	Manimpahoi
Closed room	Yes	Yes	Yes
Adequate lighting and ventilation	Yes	Yes	Yes
Consultation table and examination table	Yes	Yes	Yes
No ground floor	Yes	Yes	Yes
Spotlights	Yes	Yes	Yes
Aluminum speculum	Yes	Yes	Yes
Disposable speculum	Yes	Yes	Yes
3 plastic containers	Yes	Yes	Yes
Speculum holder	Yes	Yes	Yes
Bucket 3 pieces	Yes	Yes	Yes
Cotton stick	Yes	Yes	Yes
Wooden spatula	No	Yes	No
Acetic acid	Yes	Yes	Yes
Speculum jelly	Yes	Yes	Yes
SADANIS lubricant	No	Yes	Yes
Gloves	Yes	Yes	Yes
Cleaning cloth	Yes	Yes	No
Abdominal covering	Yes	Yes	No

implementing officer's statement, the cleaning cloths and cloth covers that were frequently used were the unique sarongs of the people who conducted the inspections. The examination site at the Aska Puskesmas met all requirements, including being closed, having adequate lighting and ventilation, having a consultation table and an examination table, and not having an earthen floor. The tools and materials available were also good, although SADANIS still needed a wooden spatula and lubricant. The IVA-SADANIS MLM system innovation was initiated and developed by the Aska Puskesmas. It was demonstrated by the existence of a member sheet and its network and a signed statement of commitment by the member. Table 2 shows the results of a comparison of inspection facilities and pre-facilities in Sinjai Regency.

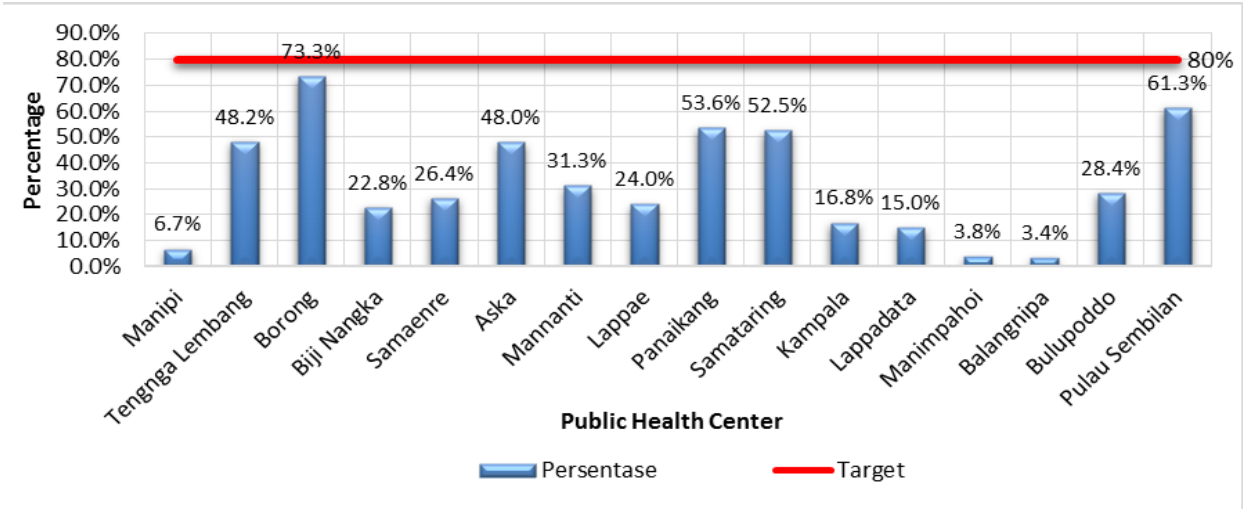
Document Review

According to a document review conducted in Sinjai District, various supporting documents for the SADANIS-IVA program in Sinjai District were available, including regulations, manuals, photos of activity implementation, competency certificates of implementing staff, reports, coverage data, and cases.

The program accomplishments listed in 2022 were recapitulation data from January to June 2022 and were presented per Puskesmas. There were no Puskesmas that achieved the 80% target. Borong Puskesmas had the highest achievement, with 73.3%, followed by Pulau Sembilan, with 61.3%. The Public Primary Health Care with the lowest SADANIS achievement was the Balangnipa Puskesmas, with a 3.4% SADANIS achievement. The Balangnipa Puskesmas then ranked second lowest in the SADANIS program. Figure 1 depicts the information.

Figure 2 depicts the accomplishments of the Acetic Acid Visual Inspection (IVA) program per Puskesmas in Sinjai Regency in 2022. It was known that none of the 16 Puskemas in Sinjai Regency had yet met the IVA examination target. The Puskesmas with the highest achievement, 54.1%, was the Samatar-

Figure 1
The Achievements of the Clinical Breast Examination (SADANIS) program in January-June 2022



ing Puskesmas. Meanwhile, the Biji Nangka Puskesmas had the lowest achievement, with only 0.9%.

From 2021 to 2022, the achievements of the SADANIS-IVA program in the Sinjai Regency decreased. The Clinical Breast Examination (SADANIS) program in Sinjai Regency achieved 31.9% in 2021 and 25% in 2022 until June. The Acetic Acid Visual Inspection (IVA) program gained 16.1% in 2021 and 8.3% in 2022. Figure 3 displays the comparison**.**

The Sinjai Regional General Hospital provided information on the number of breast cancer, breast tumors, and cervical cancer cases. The number of breast cancer cases in Sinjai Regency was only one in 2021, but it increased to five in 2022. Meanwhile, in 2021, there were 56 cases of breast tumors, which decreased to 27 cases in 2022. Similar to cervical cancer, the number of cases in 2021 was five, then dropped to two in 2022. One document was not found, data on breast and cervical cancer deaths. According to the document search results, the health office and the Primary Public Health Care did not have specific data on this matter. After tracing the data at Sinjai District Hospital, no cases of breast or cervical cancer that had died were discovered.

DISCUSSION

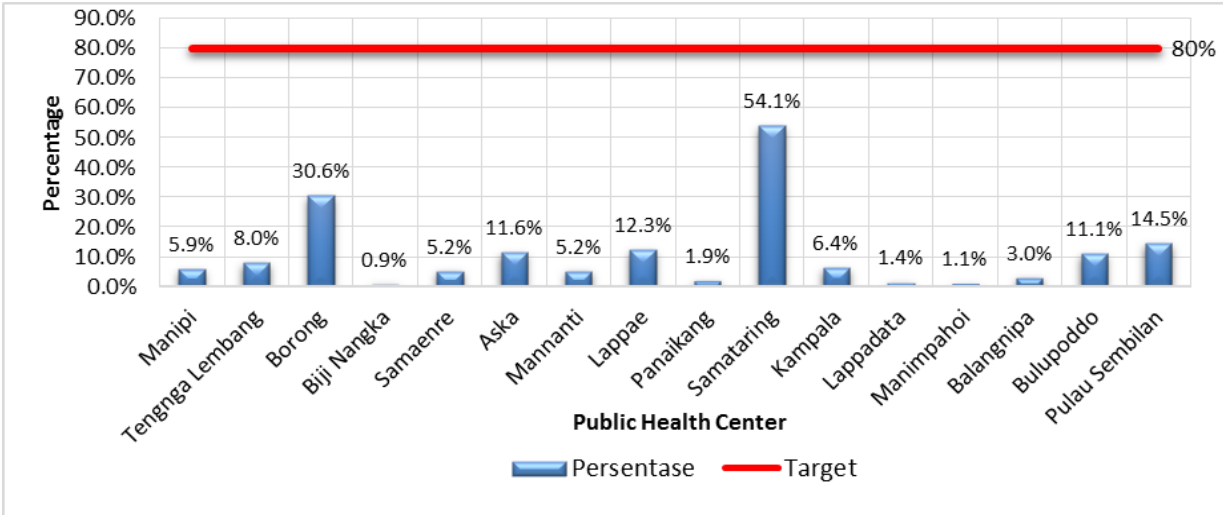
Health Resources and Information System

Human resources for health, also known as health workers, are individuals who devote themselves to the health sector and have acquired knowledge and skills through education in the health sector (Huremović, (2019). SADANIS and IVA examinations are performed by trained midwives, general practitioners, and obstetrics and gynecology specialists (Amelia et al., 2019). Implementing the cancer early detection program may be hampered by a shortage of human resources, specifically trained general practitioners (Bateman et al., 2019).

All equipment, tools, and facilities used as the primary tool to carry out an activity are referred to as facilities. Meanwhile, infrastructure is a location or room where these activities can occur. The availability of facilities and infrastructure is a critical factor in program implementation (Amelia et al., 2019). A secure examination location is vital and must be considered by Primary Public Health Care (Puskesmas). It is because, according to Weller et al. (2014), everyone needs security, namely safety and protection from harm.

The development of an information system in the early detection program for breast

Figure 2
Achievements of the Acetic Acid Visual Inspection (IVA) program in January-June 2022



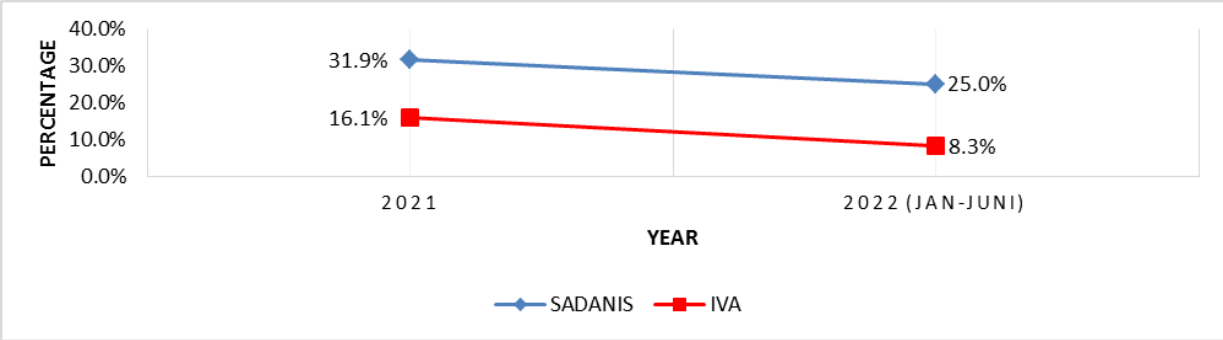
and cervical cancer aims to improve data management and provide valid and accurate information. The digital era's advances in information systems have transformed every manual reporting and recording system into a computerized system (Elfström et al., 2015). Of course, this saves time, money, and energy. Furthermore, the use of technology-based information systems, particularly in the health sector, can generate accurate, timely, and precise information (Zeadally & Bello, 2021). The findings of this study are consistent with the findings of Amelia et al. (2019), who discovered that the reporting system used by a program implementing officers in Semarang Regency takes two forms: offline and online. Offline reports are sent to the head of the Puskesmas, while online reports are sent to the Semarang District Health Office via e-mail.

The program has been actively implemented in Sinjai Regency through mass inspections and cross-sectoral cooperation. The Covid -19 pandemic was once an impediment to this active implementation. The program is also run passively by the two regencies, who wait for people to visit the Puskesmas to be examined. Having a SADANIS-IVA examination performed at Integrated Development Post (Posbindu) is the appropriate step. According to Marantika's research from 2021, the Division of Non Communicable Disease (PTM) in Posbindu is intended as an effort to control PTM on a regular basis using a 5-table system. On table 4, blood pressure, sugar, and cholesterol levels were measured, as well as a SA-DANIS-IVA examination (Marantika et al., 2022). As a result, Puskesmas must monitor and evaluate Posbindu's activitiesi in order to ensure the implementation status of the SA-DANIS-IVA program.

Socialization & Promotion

Socialization activities for the early detection program for breast and cervical cancer are critical for increasing public interest and knowledge, particularly among women of childbearing age. The Women of reproductive age knowledge about early cancer detection boosts their confidence in maintaining their health. As a result, suitable socialisation activities are expected to foster positive beliefs for women of reproductive age in motivating themselves and those around them to carry out early detection (Rahmadini et al., 2022). The findings of this study are consistent with research conducted by Insani and Marlina (2020),

Figure 3
The Comparison of the achievements of the SADANIS-IVA program



which found that socialization activities carried out by Puskesmas in Simalungun Regency took place in formal meetings such as village meetings/conferences or non-formal meetings such as social gatherings and religious activities.

The main task of health workers is to promote health. Health promotion activities in the form of public outreach, particularly to women of reproductive age. Counseling conveys information through the media through lectures, demonstrations, and practices (Joseph et al., 2021). Every woman of reproductive age must be aware of the importance of early detection. Because cancer cells in the body can be identified and treated more quickly if there is a high level of awareness for early detection and symptoms knowledge (Azriful et al., 2021).

When carrying out health promotion activities, implementing staff frequently face some challenges. According to Gupta et al., 2014), there are several challenges that could become opportunities in health promotion for cancer survivors, including actively spread the message of positivity, create and implement strategies for organized screening delivery, implement methods for identifying unscreened people, and fund that give underserved people access to screening, diagnostic and treatment.

Social support for Early Detection

The Sinjai Regency government's innovation of the IVA-SADANIS MLM system, particularly at Aska Puskesmas, has rapidly increased the IVA-SADANIS program's achievements in Sinjai Regency. The IVA-SADANIS MLM system was designed to educate the community before transforming them into health cadres participating in promotional-preventive efforts. It is consistent with Azlina's research from 2022, which explains how health cadres can conduct outreach and encourage women of childbearing age to actively participate in efforts to detect early breast and cervical cancer. Cadres who have taken exams and received health education are considered to have self-awareness (awareness) of cancer symptoms, causes, and early detection (Azlina et al., 2022).

Family support is also essential and required for women of reproductive age who wish to undergo an examination and those suffering from breast or cervical cancer (Kung et al., 2019; Rasul et al., 2015). It is similar to Azriful's research from 2021, which explains that family support is a cue to action that causes a person to live a healthy life. Sufferers will be motivated to recover by adopting healthy lifestyle behaviors if they have family support (Azriful et al., 2021). It is consistent with Marantika's research, which found that family support, particularly from husbands, has a relationship with women of reproductive age participation in IVA examinations (Marantika et al., 2022). According to Juwitasari et al. (2021), Indonesian women who are supported by their

husbands are more likely to perform early cancer detection than women who are not supported by their husbands.

The concept of social support is required by society, particularly by breast cancer patients. According to the findings study conducted by Leung et al. (2014), breast cancer patients can share information and support one another with social support. It can boost patients' motivation and quality of life. It is consistent with the findings of Ng et al. (2015) and also Williams and Jeanetta (2016) which concluded that the support of family and friends by providing information, advice, attention, and an open attitude could foster feelings of comfort and enthusiasm for early cancer detection.

Program achievement

Efforts to improve the program's achievements include conducting training to increase the capacity and competence of implementing officers, forming networks by involving community organizations, issuing circulars from the local government encouraging women of reproductive age with civil servants (locally named ASN) status to carry out inspections, intensifying socialization and promotion to the community, and conducting mass inspections through cross-sector cooperation (Rasyid & Maliani, 2018). According to research conducted by Hiatt et al. (2017), a health promotion strategy is required to increase the achievements of the early cancer detection program through community empowerment activities, atmosphere building, advocacy, and cross-sector collaboration. Furthermore, it is necessary to pay attention to the percentage of health care carrying out health promotion, with sufficient staff and promotional materials, to improve program outcomes.

The community must have easy access to public health services. People can handle geographical, economic, and time constraints with easy access. The distance and travel time measure geographical access, and mode of transportation used to obtain health care (Kelly et al., 2016). Meanwhile, economical access is determined by one's ability to pay for goods and services (Levesque et al., 2013). The findings of this study are consistent with Douthit et al. (2015) research, which states that community affordability, including insufficient public transport and a lack of trained physicians, influences health choices and services.

The increase in morbidity and mortality from breast and cervical cancer is due to delays in early detection and visits to hospitals at advanced stages, namely stages IIB-IVB (Awofeso et al., 2018). Cancer cases discovered early are extremely rare, accounting for approximately 5% of all cases. According to the World Health Organization (2020a), adopting a healthy lifestyle can prevent 43% of breast and cervical cancer cases and cure 1/3 of all cases if detected early .

Long-term IVA examination could help to reduce morbidity and mortality from cervical cancer. Developed countries have demonstrated it, they have reduced the incidence and mortality from cervical cancer (Lohiya et al., 2022). Eby's research in 2022 also stated that the results of observational studies conducted in Europe, Canada, Australia, New Zealand, and Korea showed that the implementation of early breast cancer detection programs significantly reduced the morbidity of advanced-stage cancer and reduced the need for chemotherapy. Moreover, radiation therapy extends patients' lives, reducing the risk of breast cancer death (Eby et al., 2022).

CONCLUSIONS

Human resources, infrastructure, information systems, and implementation methods are four input sub-variables that are considered

critical to the success of the early detection program for breast and cervical cancer. The presence of an integrated screening and inspection system innovation in Sinjai Regency is regarded as a factor in increasing this accomplishment. As a result, implementing the program for early detection of breast cancer using the Clinical Breast Examination (SADANIS) method and cervical cancer using the Acetic Acid Visual Inspection (IVA) method in the Sinjai Regency is deemed to be superior. One of its disadvantages is that this study acquired female informants of reproductive age by accident and who may work as health professionals. When evaluating the implementation of a health program, health workers undoubtedly have specific information and perspectives from other communities. Additionally, this study did not conduct in-depth interviews with hospital staff members or administrators dealing with breast and cervical cancer cases. Due to the specific data-gathering techniques, good triangulation, and clear information presentation, this research still offers a precise picture of program implementation. The Sinjai District Health Office should actively provide training, provide disposable tools, offer support in the form of rules, and actively participate in cross-sector collaboration, according to this study's recommendations. Additionally, the early detection program must be integrated with the family planning program, outreach and promotion must be done, and the SADANIS-IVA MLM system must be replicated and developed by the Primary Public Health Care and program implementers. Resources, communication, disposition, and bureaucratic structure are the variables from George C. Edwards III's hypothesis that can be used to continue this research using the mixed-method methodology.

ACKNOWLEDGEMENT

We are indebted and thank to the Director of the Sinjai District Health Office and his team. The authors further acknowledge the collaboration and assistance of the Main Director of the Sinjai district, the Head of the Balangnipa Health Center, Manimpahoi Pukesmas, Aska Pukesmas, and the Head of the Balangnipa Pukesmas during the research process.

FUNDING

The study was supported by funding from Ministry of Religion of The Republic of Indonesia and LPPM Universitas Islam Negeri Alauddin Makassar.

AUTHORS' CONTRIBUTIONS

Azriful Azriful designed the study, performed the statistical analysis, acquired the data, drafted the article, interpreted the data, and approved the final version to be published. Syamsul Alam reviewed and critically revised the article and approved the final version to be published. Mufti As Siddiq acquired the data, performed the field work and revised the article.

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COMPETING INTERESTS

The authors confirm that all of the text, figures, and tables in the submitted manuscript work are original work created by the authors and that there are no competing professional, financial, or personal interests from other parties.

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