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Lacked of Breast Cancer Awareness of Indonesian Rural Women: a Descriptive Study to Adult Women in District Pangandaran, Indonesia

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Abstract

Breast cancer remains a significant global health challenge, particularly in low and middle-income countries like Indonesia. Patients with advanced metastatic breast cancer have a dismal prognosis. A cancer promotion program's failure can be attributed to low awareness of breast cancer. This descriptive study aimed to evaluate breast cancer awareness among adult women in District Pangandaran, Indonesia. Data was gathered in July 2018 from 189 individuals using a verified Breast Cancer Awareness Measure instrument developed by Cancer Research UK. Results revealed a concerning lack of awareness among participants regarding various breast cancer risk factors, symptoms, and screening practices. Additionally, reluctance to seek medical help due to fear of diagnosis was observed, particularly among housewives without health insurance. These findings highlight the urgent need for comprehensive health programs to enhance breast cancer awareness and promote early detection strategies tailored to the Indonesian population, especially in rural areas. Healthcare providers and public health workers play a vital role in this effort, along with implementing innovative health promotion policies by the government to improve cancer prevention programs.

Keywords: Breast cancer awareness, rural women, Indonesia, Pangandaran, health promotion, public health intervention.

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Introduction

Breast cancer continues to pose a significant public health challenge, with 2.09 million new cases and 627,000 fatalities reported globally each year.[1] It ranks as the second most frequently diagnosed cancer worldwide, affecting populations across low and middle-income countries.[2] While early detection and effective treatment options exist for breast cancer, survival rates remain disproportionately low in developing nations. This is often attributed to factors such as limited awareness, inadequate screening programs, and challenges in accessing timely and standardized care. A substantial portion of breast cancer-related deaths, particularly in low- and middle-income countries, can be linked to insufficient access to early detection methods and treatment. The implementation of systematic mammography screening, which is considered a crucial tool for early detection, is often hindered by issues of affordability and feasibility in these regions.[3]

As an alternative, breast self-examination (BSE) offers a cost-effective and less invasive approach to detecting potential abnormalities.[4] While the effectiveness of BSE remains a topic of debate within medical circles, it nonetheless offers distinct advantages. Engaging in regular self-examination not only promotes heightened awareness of breast health among women but also empowers them to take proactive measures for their well-being. Furthermore, it encourages individuals to promptly seek assistance from healthcare professionals upon noticing any concerning changes, potentially facilitating earlier diagnosis and intervention.[2,5]

The early identification, treatment, and prevention of breast cancer are significantly bolstered by widespread public awareness of the disease. Unlike some other cancers, breast cancer holds a high potential for successful treatment when detected at an early stage. To effectively plan comprehensive health programs and campaigns for early detection and treatment, it is imperative to first assess the current levels of cancer awareness within communities of women nationwide.[2] Study showed that breast cancer awareness is influenced by various factors including socioeconomic factors, affordability to facilities and health personnel, social activities, and personality.[6]

In that case, women residing in rural areas encounter distinct obstacles and limitations concerning awareness and early detection of breast cancer. These challenges encompass restricted access to healthcare facilities, a lack of education and knowledge regarding breast cancer, cultural taboos, and financial constraints.[2] Research indicates a pervasive lack of awareness among women globally, with particular prevalence among Asian populations. A cross-sectional study conducted by Norlaili AA et al. in 2013 examined five rural districts in Malaysia, revealing a correlation between higher levels of education and increased awareness of breast cancer among women.[3] Notably, women from rural areas typically had lower levels of education. This study aimed to investigate the level of knowledge, confidence, and behavioral patterns related to breast cancer among women in Indonesia, with a specific focus on suburban areas. The findings from this research are anticipated to be utilized by healthcare professionals and governmental bodies to enhance the effectiveness of health programs tailored to address breast cancer awareness and prevention within the Indonesian population, particularly in suburban regions.

Methods

Study Design

This research conducted a descriptive, cross-sectional analysis aimed at evaluate the level

of breast cancer awareness among women aged 16 to 65 residing in the suburban area of Cijulang sub-district, Pangandaran district, within the West Java Province of Indonesia. During July 2018, data was gathered from 189 participants using a validated tool provided by Cancer Research UK to assess Breast Cancer Awareness. Data collection involved visiting participants' homes and utilizing a validated, adapted version of the Breast Cancer Awareness Measure (Breast-CAM), which had been translated into Indonesian. The study was conducted with the approval of the ethical research committee of Universitas Padjadjaran (approval number: 422/UN6.KEP/EC/2018), and prior informed consent was obtained from all participants before conducting interviews.

Sampling and Sample size

Cluster random sampling was employed for the sampling methodology, wherein participants were grouped based on their residential areas, specifically categorized according to the seven villages within the Cijulang sub-district: Batukaras, Ciakar, Cibanten, Cijulang, Kertayasa, Kondangjajar, and Margacinta. This study focused on three of these villages, namely Cijulang, Kondangjajar, and Margacinta. A total of 189 subjects were included in the data collection process.

Data Collecting and Analysis

The data collected underwent recording and tabulation using Microsoft Office Excel 2010, followed by analysis through descriptive methods. Presentation of the data was achieved through frequency and percentage distributions, facilitating a clear understanding of the findings.

Results and Discussion

Demographic Characteristic of The Study Population

The subjects' average age was approximately 39.9 years. Predominantly, the participants identified as Sundanese, comprising 93.7% of the sample. Additionally, a significant majority resided in their own homes (95.8%) and were situated within a 5-kilometer radius of a healthcare facility (94.2%). Furthermore, the vast majority reported not smoking (97.4%) and had not previously received a breast cancer diagnosis (82%). Regarding educational attainment, more than half had lower levels of education (58.2%), and a majority identified as housewives (53.4%). The majority also derived their income from non-permanent employment (58.7%) and possessed health insurance (52.4%) (Table 1).

Research indicates that a person's occupation and level of education significantly influence the prognosis of breast cancer, impacting factors like the stage at diagnosis and treatment strategies. Typically, individuals with higher education levels exhibit smaller tumor sizes, a greater likelihood of early breast cancer detection, and improved treatment outcomes compared to those with lower education levels. Moreover, diverse occupational groups exhibit varying breast cancer outcomes; for example, professionals may experience a higher prevalence of early-stage breast cancer, necessitating different treatment approaches compared to manual laborers or other occupational cohorts.[7] However, in our study, we did not explore the relationship between participants' educational backgrounds or occupations and their breast cancer education or awareness levels. Further investigation is warranted to delve deeper into these associations.

Awareness of Breast Cancer Among Suburban Women

In order to evaluate the breast cancer awareness levels of the subjects, they were questioned about five specific aspects, which encompassed (1) their knowledge regarding breast cancer signs and symptoms, (2) the

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regularity of breast self-examinations, (3) their confidence in identifying any changes in their breasts, (4) awareness of age-related risks, and (5) comprehension of lifetime risks associated with breast cancer. An asterisk serves as a symbol denoting that the participant possesses a strong comprehension of the pertinent question (Table 2).

Our research findings indicate a significant lack of awareness regarding breast cancer among Indonesian suburban women. The participants in our study demonstrated a lack of understanding concerning the age-related risk factors associated with breast cancer, as well as an underestimation of the lifetime risk of developing the disease, as highlighted in Table 2. These findings align with similar studies, which have also identified limited knowledge among subjects regarding both age-related and lifetime breast cancer risks.[8–11] Additionally, it was observed that the majority of subjects were unaware of the role of family history and previous instances of breast cancer in their medical history as contributing factors to their risk. This contrasts with research conducted among high-risk populations, where participants were found to be knowledgeable about the significance of family history and past breast cancer diagnoses as risk factors.[8]

Introducing breast cancer symptoms and providing training on how to conduct breast self-examinations (BSE) from a young age could significantly improve breast cancer awareness among women. In developed countries, a notable 82% of women engage in routine BSE.[12] This heightened awareness is largely attributed to the guidance and encouragement provided by healthcare professionals, with 69.9% of women receiving coaching on BSE and 78.3% being encouraged to perform regular self-examinations during their teenage years.[12] Unfortunately, our study revealed that our subjects seldom conducted BSE and were primarily aware of lumps or thickening in the breast, neglecting other potential symptoms in the nipple, armpits, and breast skin, as detailed in Table 2. These findings underscore the critical need to educate suburban communities and implement government-sponsored early cancer detection programs.

Suburban Women's Awareness of Breast Cancer Symptoms and Risk Factor Variables

The participants' understanding of breast cancer symptoms was evaluated through a task requiring them to identify such symptoms. Analysis of the data revealed that fewer than 30% of the subjects were able to correctly identify breast cancer symptoms other than a lump in the breast, as illustrated in Table 3. This observation suggests a notable deficiency in the subjects' awareness regarding breast cancer symptoms.

Furthermore, the majority of subjects displayed limited awareness concerning the risk factors associated with breast cancer, as depicted in Table 4. It is noteworthy that only a small proportion of participants, amounting to 10.6%, acknowledged a recent history of breast cancer as one of the risk factors for the disease, indicating a significant gap in their understanding of breast cancer risk factors.

Fortunately, Indonesian suburban women have shown knowledge of several risk factors related to breast cancer, such as drinking alcohol and not exercising. Compared to other organs, the breast is especially susceptible to the cancer-causing properties of alcohol.[13] Even yet, studies have suggested that moderate physical activity, such brisk walking, may reduce the incidence of breast cancer, especially in postmenopausal women. This is due to the fact that exercise helps lower hormone levels, including progesterone and estrogen in the blood, which are associated with an increased risk of breast cancer.[14-15]

Table 1. Demographic Profile of the Study Population

Potential Determinants		(n = 189)	%
Age (year old)	<20	17	9.0
	21-40	85	45.0
	41-60	76	40.2
	>61	11	5.8
Ethnicity	Sundanese	177	93.7
	Javanese	9	4.8
	Other	3	1.6
Residence	private house	181	95.8
	Rent a house	5	2.6
	Rent a room	3	1.6
Distance to healthcare	<5 km	178	94.2
	5-10 km	10	5.3
	>11 km	5	2.6
Formal Education	Lower than high school	110	58.2
	High school	61	32.3
	Graduate school	18	9.5
Source of income	Parent or children	8	4.2
	Spouse	10	5.3
	Pension	8	4.2
	Fixed employment	50	26.5
	Non-permanent employment	111	58.7
	No income	2	1.1
Insured	Yes	99	52.4
	No	89	47.1
	Do not know	1	0.5
Job	Housewife	101	53.4
	Trader/Merchant	23	12.2
	Teacher	12	6.3
	Student	14	7.4
	Farmer/gardener	15	7.9
	Others	19	10.1
	Out of employ	5	2.6
Tobacco smoking	Yes	5	2.6
	No	184	97.4
Have been diagnosed with breast cancer	Yes	3	1.6
	No	155	82.0
	Do not know	31	16.4

Table 2. Understanding of Breast Cancer Among Suburban Women

Variables		n = 189	%
Knowledge of symptoms	>5 non-lump symptoms*	46	24.3
	1–4 non-lump symptoms	43	22.8
	Do not know	100	52.9
Frequency of breast checking	At least once a week or once a month*	40	21.2
	At least once every 6 months	9	4.8
	Rarely or never	140	74.1
Confidence to detect any changes in breast	Fairly-to-very confident*	75	39.7
	Slightly-to-not at all confident	82	43.4
	Do not know	32	16.9
Knowledge of age-related risk	Woman aged 70-year-old*	1	0.5
	Woman aged 50-year-old	13	6.9
	Woman aged 30-year-old	45	23.8
	Others	81	42.9
	Do not know	49	25.9
Knowledge of lifetime risk	1 in 8 women*	26	13.8
	1 in 3 women	21	11.1
	1 in 100 women	30	15.9
	1 in 1000 women	19	10.1
	Do not know	93	49.2

Table 3. Percentage of Participants Familiar with All Potential Breast Cancer Symptoms

Variables	n=189	%
Nipple position changes	36	19.0
Pulling in of nipple	37	19.6
Breasts or armpit pain	55	29.1
Breast skin Puckering or dimpling	36	19.0
Nipple discharge or bleeding	45	23.8
A lump on or thickening in the breast	77	40.7
Nipple rash	40	21.2
Breast skin Redness	46	24.3
A lump or thickening under an armpit	49	25.9
Change in the shape of the breast or nipple	45	23.8
Change in the size of the breast or nipple	48	25.4

Obstacles Encountered in Accessing Medical Assistance

During breast self-examination (BSE), abnormalities were detected in the breasts of 41 subjects. Remarkably, half of these individuals did not seek consultation with a medical doctor for further assessment, as outlined in Table 5. Additionally, it was noted that nearly half of the subjects expressed concerns regarding potential findings during medical consultations, with 53.66% indicating worry, as shown in Table 5.

Many women who become aware of their health issues often seek medical attention to confirm a diagnosis.[16] However, there are numerous obstacles to accessing healthcare services, particularly for conditions like cancer. Our findings revealed that a significant number of subjects avoided visiting a doctor, with one of the primary reasons being concern over potential diagnoses. This aligns with previous research indicating that the fear of what a doctor might uncover is a commonly cited barrier to seeking medical help.[17] Additionally, half of the subjects were housewives without health insurance, relying on unstable income from non-permanent jobs. These factors could also hinder their willingness to seek medical attention and become informed about breast cancer signs and symptoms. It is worth noting that in low-income countries, individuals often prioritize securing funds for basic necessities over healthcare, contributing to low health awareness levels.[18]

Several studies have identified common obstacles that can impact breast cancer education and awareness among women across diverse population. Firstly, there is a significant lack of knowledge and awareness, particularly within underserved communities. Secondly, individuals may face perceived barriers such as shyness, fear, and cultural attitudes, which can deter them from seeking information about breast cancer. Thirdly, socio-cultural factors, such as fear of screening, lack of social support, and adherence to cultural norms, can obstruct access to information and preventive measures. Additionally, logistical challenges like transportation issues, lack of paid time off (PTO), and childcare responsibilities can prevent individuals from attending educational sessions. Moreover, financial constraints and disparities in healthcare access and delivery further exacerbate these barriers to breast cancer education and awareness.[19-21] These factors were also identified in our research study. By recognizing and addressing these common barriers through customized educational programs, culturally sensitive awareness campaigns, improved resource accessibility, and enhanced healthcare system support, there is potential to enhance breast cancer education and awareness, particularly among suburban women.

Additional efforts such as educational interventions, community-based programs within primary healthcare settings, implementation of school-based educational initiatives targeting adolescents to raise breast cancer awareness, and the establishment of peer support groups can be integrated into educational programs and community outreach endeavors.[22,23] Public health workers are especially pivotal in these endeavors, given the prevalence of housewives among the women studied. Moreover, healthcare providers should actively participate in research endeavors aimed at advancing breast cancer treatment, interventions, and the promotion of effective strategies alongside educational initiatives. Lastly, it is advised that the government implement innovative health promotion policies to bolster cancer prevention programs.

Conclusion

This study reveals a concerning lack of awareness among women regarding various risk factors associated with breast cancer, including age-related risks, lifetime risks, as well as past medical history, hereditary factors, hormonal influences, and lifestyle choices. Notably, a majority of subjects not only infrequently performed breast self-examinations but also avoided seeking medical attention due to concerns about potential diagnoses.

These findings underscore the urgent need for healthcare providers to prioritize raising awareness of breast cancer among Indonesian suburban women. Public health workers, in particular, play a crucial role in this effort, given that many of the women in the study were housewives. Furthermore, healthcare providers should actively engage in research aimed at improving breast cancer treatment, interventions, and promotion of effective strategies, in addition to education initiatives. Lastly, it is recommended that the government implement innovative health promotion policies to enhance cancer prevention programs.

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Conflict of Interest

The authors declare that they have no competing interests.

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