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Actors Influencing the Risk of Breast Cancer of Child bearing Women in Pekalongan Community Health Center

Ratnawati and Rihastri Dwi Nurfitriyani

Nursing Departement, Health Science Faculty, Universitas Muhammadiyah Pekajangan Pekalongan, Central Java, Indonesia

Abstract

Background: Cancer is one of the leading causes of death in worldwide. Breast cancer is the most common cancer in women in both developed and developing countries. Risk factors for breast cancer include reproductive factors, endocrine factors, diet, and genetic or family history. **Objective:** The Objective of the study wasto analyze the factors that influence the risk of breast cancer in Child bearing Age Women in the Work Area of Kedungwuni 1 Pekalongan Health Center. **Methods:** The study used descriptive cross sectional approach. The population of the study were women of child bearing age who lived in Kedungwuni Timur, Kedungwuni, Pekalongan. The sampling technique used cluster random sampling. The sample of the study were women of child bearing age who live in Kedungwuni Timur, Kedungwuni, Pekalongan. Data analys is used univariate and multivariate tests using multiple regressiontests. **Results:** Multivariate analys is results showed that parity and type of birth control affect the risk of breast cancer when compared to age and BMI. Importance: The suggestion of this research is expecting that family planning acceptors may choose the type of family planning that has a low risk of breast cancer risk.

Keywords: Cancer Risk Factors, Breast Cancer, Child bearing Age Women

Corresponding Author:
Ratnawati
Ratnawati2704@gmail.com

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1. Introduction

Cancer is one of the leading causes of death in worldwide. In 2012, around 8.2 million deaths were due to cancers in case lung, liver, stomach, colorectal, andbreast cancer [1]. Breast cancer is the most common cancer in women in both developed and developing countries. It was estimated that in 2011 there were morethan 508,000 women of world wide dying by breast cancer. Breast cancer is considered a disease of developed countries, butnearly 50% ofbreast cancer cases world wide and 58% of deaths occur in less developed countries [2].

Cervical and breast cancer were the most prevalent cancers in Indonesia in 2013. Cervical cancer was 0.8% or anestimated absolute number of 98,692 people and breast

cancer was 0.5% or anestimated absoluten umber of 61,682 people. The prevalence in Central Java forcervical cancer is 1.2% or the estimated absolute number is 19,734 people and the prevalence of breast cancer is 0.7% or the absolute number estimateis 11,511 people. Cases of breast cancer in Central Java were 37.09% (4,206 cases) in 2011 with the highest prevalence in Pekalongan City by 0.215% in 2012 [3].

The increase is caused by delays in diagnosis which are usually due to weak general conditions, low socio economic status, as well as limited resources, apart from the facilities and infrastructure also determine death by the cancer. Most patients with cancer come in advanced conditions because complaints that arise are not felt as an emergency [4]. Risk factors for breast cancer include reproductive factors consistin go fearly menarche age, first pregnancy in oldage, low parity, lactation period; Endocrine factors consist of oral contraceptives, hormone replacement therapy, age> 75 yearswith 75% breastdensity, atypicalhy perplasia; Diets like alcohol consumption, obesity; genetic or family history, family members with breast or ovarian cancer [5, 6] research shows that the great risk of breast cancer is child bearing age women. Child bearing age women have a large population in the community. Data from the Pekalongan Health Office the highest number of child bearing age couples is in the Kedungwuni 1 Pekalongan Community Health Center, the most data is in the Kedungwuni Timur, thatis 3,682 PUS.

This study analyzes more deeply the factors that influence the risk of breast cancer in Child bearing age Women in theWork Area of the Kedungwuni Pekalongan Community Health Center. Based on the problem formulation, the research questionis ”What are the factors that influence the risk of breast cancer in child bearing age women in the working area of Kedungwuni 1 Pekalongan Community Health Center?

2. Methods

2.1. Study design and sample

This study used descriptive study with cross sectional approach. The population in this study were child bearing age women who lived in Kedungwuni Timur, Kedungwuni, Pekalongan. The sampling technique used cluster random sampling by listing the number of groups in the population then taking samples based on these clusters with a sample size of 20% [7].

The sample of the study was child bearing age couples who live in the Kedungwuni Timur, Kedungwuni, Pekalongan. The cluster unit in this study was the Neighborhood Association or *Rumah Tetangga* (RT) in the Kedungwuni Timur, as many as 17 RW.

Researcher stook a sample of 15% of the 17 RWs in the East Kedungwuni as many 3 RWs. RWs that had been used as research samples were randomly selected by lottery systems they were RW IV, XII and XV. The inclusion criteria in the study are: Women who are included in the child bearing age in Kedungwuni, East Kedungwuni, of child bearing age who are cooperative and can be invited to communicate. Exclusion criteria included women of child bearing age who were not presentat the time of the study.

2.1.1. Instrument

The Data in the study were collected through questionnaires. The questionnaire in this study consisted of questionnaire respondents' characteristics and risk factors for breast cancer. Explain instrument more detail including how many items, how to score, who developed, and validity and reliability

Data collection procedure → Add

2.2. Data analysis

The data was analysed with editing, coding, processing and cleaning. Analys is of the data used was bivariate analys is using multiple logistic regression tests.

3. Results

The results of this study showed respondents are mostly primiparas (82,2%) and more than 35 years old as much as 53,4%. Respondens who have a normal Body Mass Indeks are 83,4% and 77,7% respondents used a hormonal contraception (hormonal contraception acceptors).This study also showed that respondents were mostly not at risk for breast cancer (58,3%) (Table 1).

The results of multivariate analysis showed the factor influencing the risk of breast cancer are a history of the use of hormonal contraception (p value 0,001) andprimipara (pvalue 0,049). Another factors that doesn't significantly influencing the risk of breast cancer are age over 35 years (p value 0,095) and normal BMI (p value 0,58) (Table 2).

4. Discussion

There are risk factors for breast cancer that can be modified and some that cannot be modified. Risk factors for breast cancer include sex, age, genetics, lack of child bearing,

Table 1: Frequency Distribution.

Variable		n	%
Parity	Primipara	203	82.2
	Multipara	44	17.8
Age	More than 35 years	132	53, 4
	Less / equalto 35 years	115	46.6
BMI	Overweight	41	16.6
	Normal	206	83.4
Contraceptiveusehistory	Hormonal	192	77.7
	Non hormonal	55	22.3
Riskofbreast cancer	Risky	103	41.7
	Norisk	144	58.3

Table 2: The correlationbetweenparity, age, BMI, familyplanninghistoryandbreast cancer risk (n:..).

Variable	Dependentvariable RiskofBreast Cancer				OR (95% CI)	*p value*
Confounding	Risky		Norisk			
	N	%	n	%		
Parity					0.462 (0.225-0.947)	0.049
Primipara	12	27.3	32	72.7		
Multipara	91	44.8	112	55.2		
Age					1,599 (0.958-2.668	0.095
> / = 35 yearsold	62	47	70	53		
<35 yearsold	41	35.7	74	64.3		
BMI					.774 (0.387-1,547)	0.58
Overweight	15	36.6	26	63.4		
Normal	88	42.7	118	57.3		
Contraceptiveusehistory					3.23 (1.60-6.50)	.001
Hormonal	91	47.4	101	52,6		
Non hormonal	12	21.8	43	78.2		

level of estrogens in the body, certain dietary patterns, exposure to radiation, positive family history of breast cancer and obesity [8]. Parity, age and cancer history are factors that cannot be modified. Factors contraceptive use and nutritional status is a factor that can bemodified. Respondents in this study were mostly primiparous, over 35 yearsold, and most were not at risk of breast cancer. Most of the respondents are women with a risk of age (over 35 years). This result is in accordance with the results of [9] shows that the older the age, the greater the risk of developing cancer. Aging is one of the most important risk factors of breast cancer, because the incidence of breast cancer is highly related to the increasing age [10]. Young age is a risk factor for poorer survival of breast

cancer. The young age breast cancer patient has aggressive biological characteristics and tends to be diagnosed at an advanced stage, resulting in poorer outcomes than breast cancer in older premenopausal and postmenopausal women [11].

The results also showed that the nutritional status (BMI) of the respondents was mostly normal. Respondents have a history of using hormonal contraception more than non hormonal. The increase in non-communicable disease stend to happen to people who have a BMI of 25 to 29.9 kg / m^2 and a severe comorbidity for a BMI over 30 kg / m^2 [12]. The results of previous studie sex plain that there is a relationship between diet and breast cancer, including an increased risk with a high fat diet, alcohol intake, obesity and high cholesterol intake [13, 14] When the cholesterol has metabolized by the body, it turns into a potent estrogen like molecule that's purs theg row thof breast cancer [15]. That is in line with the results of the other studies that explain obesity increases the risk of post-menopausal estrogen receptor (ER)-positive breast cancer by over 50% [16]. Research in Indonesia also showed that there was a significant relationship between obesity and breast cancer [17]. BMI overweigt is more at risk of high grade in breast cancer grading [18].

Larger population numbers and studies support the idea of anobesity relationship is risk factors in breast cancer sufferers post menopause. Postulates of biological mechanisms is a aromatization of and rostenedione estradiol in peripherala dipose tissue and low level sof sex hormone binding globulin [19]. The result of the other study also explain that BMI was associated with advanced stage and grade of breast carcinoma among post menopausal but not premenopausal cases[20]. These findings further supportexisting evidence of greater impact of obesity in post menopausal breast cancer patients [21].

The multivariate analysis results show a history of the use of hormonal contraception has a significant correlation to the risk of breast cancer. Women who use hormonal contraception 3 times more at risk of developing breast cancer when compared to women who use non hormonal contraception. Women using hormonal contraception for a long periodic will beat risk of breast cancer due to exposure to estrogen. The use of contraception which contains estrogen replacement hormone in addition to having benefits, but has a negative aspect that is the risk of breast cancer. This is due to the growth of estrogen-sensitive breast tissue, so that women who are exposed to estrogen in the long term will have a big risk of cancer [22].

The results of this study are supported by previous research states that women who take oral contraceptive have a risk of 3.6 times more likely to develop breast cancer compared to women who do not take oral contraceptive [23]. Ban and Godellas

conducted a recent study where they reported that women taking oral contraceptives had 24% higher risk of developing cancer compared to those who never took them in their lives and that this risk especially materialized during the use of oral contraceptives [24]. Oral contraceptives do not increase the risk of breast cancer in women who stop to use them for more than 10 years [25]. But, oral contraceptives might represent a predisposing factor for the development of premenopausal breast cancer [26].

The growth of the tissue of breast affected by Some hormone growth, the hormone progesterone, and estrogen hormone. Exposureto estrogen hormone is redundan twith contraceptive pills can trigger the growth of the cells are not normal to the part specified. Breast cancer due to excessive estrogen exposure can occur due to estrogen stimulation again step it helialcell division and dueto estrogen that acts as a mutagen [27]. In addition to contraceptive pills, other hormonal contraceptives that trigger breast cancer are injections and implants [28]. Hormonal contraceptives such as pills, injections and implants contain the hormone estrogen which can increase the risk of breast cancer. Women must prevent breast cancer by minimizing exposure to the hormone estrogen in the bodysuch as changing the type of contraception used from hormonal to non hormonal like IUD.

Another factor influencing the incidence of breast cancer isparity. Women who have more pregnancies (multipara) willhave a reduced risk of breast cancer. The risk of breast cancer also occurs in women who have their first child over 29 years or who do not have children. Breast changes during pregnancy have a protective effect on the occurrence of cancer. When pregnancy late first trimester, will be high estrogen levels in pregnant women. Estrogen causes a cell multiplication process that is so fast that it triggers the formation of cancer cells. Never the less, there is a conception of a reduced risk of each additional birth [29]. Women whose first pregnancy over the age of 30 years may increase the risk of breast cancer due to an imbalance of hormones and breast tissue is very sensitive to changes this period will be the beginning of the development of cancer cells in the breast [30]. The results of previous studies explain that women with nulliparous are at risk of developing breast cancer. The more often a woman pregnant and gave birth to it will be increasingly little risk to exposed to cancer breast. The activity of the hormone progesterone in the period of pregnancy to help the maturation of cells of the breast that can reduce risk of occurrence of cancer of breast [31].

5. Conclusion

Respondents in this study have the characteristics of most of the primiparous parity of more than 35 years old, have a normal BMI, most use hormonal contraception but most are not at risk of breast cancer. Risk factors for breast cancer in women of child bearing age are the use of hormonal and primiparous contraceptives.

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Conflict of Interest

The authors have no conflict of interest to declare.

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