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ORIGINAL ARTICLE

The study of Effective Factors on Breast Cancer in Ardabil

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ABSTRACT

Background: The prevalence of breast cancer is about one third of all cancers in women constitute the second most common cancer after lung cancer and the most common cause of cancer death among women. Because of high prevalence, study of effective factors on breast cancer in Ardabil area is a very important**.**
Method: In this case-control study, 100 women were selected from the breast cancer clinic that referred to hospitals in the Ardabil city in 2014 year. In addition, 100 healthy women were that referred to health centers in Ardabil city, selected for cluster and were considered as the control group. For statistical analysis and investigation of the influencing factors on breast cancer used to classification tree models.
Results: The analyses indicated that, 83 women from case group and 80 women from control group were married. The most common age for patients whit breast cancer was 15-49 years old with average 32/8 year and (SD= 8.3).40% of women whit breast cancer were less than 30 years. None of the women did not have breast secretions in the control groups but 43 women in case groups have breast secretions.
Conclusion: The identification of risk factors in this study can be programmed to prevent and control breast cancer.
Keywords: Cancer, Breast, Ardabil

INTRODUCTION

Cancer is one of the important causes of death and disability in the worldwide. Throughout worldwide breast cancer poses a major health risk for women[1]. The incidence of breast cancer increases with age, doubling about every 10 years, when the rate of increase slows dramatically[2]. In cancer disease, Abnormal cells divide to uncontrollably and can spread to other tissues[3]. According to estimation of the International Agency for Cancer Research (IARC), for example annually 1.25 million new breast cancer are reported in worldwide and also this ratio in Iran is more than 8 million per year and breast cancer is the commonest malignancy in women[4,5] also, this amount would have achieve for 2.5 million in 2020 year[6]. Cancer is the leading cause of death in economically developed countries and the second leading cause of death in developing countries[7,8]. The 5 surveillance of breast cancer in developed countries are 83% and in the developing countries are 53 percent that this conflict is because early detection in the develop countries[9]. Cancer disease in Iran is the third cause death after cardiovascular disease and injuries accidents and would impose 662/2 Daly per 100,000 people[10]. The prevalence of breast cancer is about one third of all cancers in women constitute the second most common cancer after lung cancer and the most common cause of cancer death among women[11,12]. Which imposes Dolly 5/42 per hundred thousand people[13] the Factors affecting on breast cancer are divers in different regions and may be influencing factors known in a region and in another region, this factor is not known, considering the high prevalence and mortality risk of breast cancer for women, recognition risk factors and their role in developing this type of cancer are very important. But until now there has not been the proper study to identify factors influencing breast cancer in Ardebil.

MATERIAL AND METHOD

In this case-control study, 100 women were selected from the breast cancer clinic that referred to hospitals in the Ardabil city in 2014 year. In addition, 100 healthy women were that referred to health centers in Ardabil city, selected for cluster and were considered as the control group. For the case group, according to hospital records and for the control group by designing questionnaire extracted the variables such as age, marital status, family history of cancer, history of underlying disease (diseases other than cancer), number of children, breastfeeding history, use of oral contraceptives history, taking other medicines for diseases other than cancer, Secretory breast lump and history of blood transfusion. The response variable was considered as having or not having breast cancer. For statistical analysis and investigation of the influencing factors on breast cancer used to classification tree models. Classification tree analysis by using a division returned data is decided a tree structure and Classifies individuals according to similar clinical characters[14]. We used to model tree rankings from R software version 3,2,2 and Packages (Party). For evaluation and accuracy tree classification were applied the area under the curve ROC. For comparison variables in both case and control group were used from Statistical T test sand K2 and SPSS software version 20.

RESULTS

The analyses indicated that, 83 women from case group and 80 women from control group were married. The most common age for patients whit breast cancerwas15-49 years old with average 32/8 year and (SD= 8.3).40% of women whit breast cancer were less than 30 years. The average age for women in the control group were 31/11 years whit (SD=7) and variable range ware between 19-45 years, no significant difference was found between the two groups regarding the age (P=0/124). 66 women from case groups and 86 women from control groups had children and other women's in both groups were not even born child that this difference was significant. (P=0/003) 52 women from case groups and 76 women from control groups had a history of lactation the difference was found to be

statistically significant (P=0/001). 61 women from case groups and 6 women from control groups have a history of breast cancer in first degree relatives that this difference was significant (P<0/001). As well as use of oral contraceptives among women in both groups warestatistically significant. (P<0/001)None of the women did not have breast secretions in the control groups but 43 women in case groups have breast secretions.(P<0/001) Information of age groups and medicine consumption for diseases other than breast cancer and having a disease other than breast cancer has been reportedin table1.

In the model tree rankings for data in the first stage, the most important variable that were selective it were history of breast cancer in first-degree relatives for P<0/001.People who are in their first-degree relatives of breast cancer patients 5/24 times in compared with those who have not breast cancer in first-degree relatives, are at high risk of breast cancer.(OR=5/24). By repeating the partitioning algorithm for nodes of the first stage use of oral contraceptives variable for P<0/008 is selected as the next most important variablefor patients in the left nodes, (a patient of breast cancer in first-degree relatives) and the mass secretion variable for P<0/001 is selected for patients in the right nodes (no cancer patient in first-degree relatives).The breast feeding variable for P=0/004 is subsequent variable which has been identified as an important variable. According to Figure 1,third nodes it consists of people who have breast cancer in first-degree relatives and non-use of contraceptives that are 17 people that contain 70 % of the cancer and 30 % of normal. Third nodes it consists of persons are a patient of breast cancer in first-degree relatives and use of oral contraceptives which are 50 persons, which contain 98 % of the cancer and 0/02% of normal. In other branches are the persons no cancer patient in first-degree relatives and have abreast secretions which have formed six nodes that consists 19 persons that all (100%) had the cancer. The 9 nodes are consistent from no cancer in first-degree relatives, lack of breast secretion , non-use of contraceptives and breast-feeding that are includes 59 persons that 98% normal and 0/02% cancerous. The 10 nodes are consistent from no cancer in first-degree relatives, lack of breast secretion , non-use of contraceptives and lack of breast-feeding that are includes 26 persons that 73% normal and 27 % cancerous.

Table1: Distribution of variables whit the separation of the case and control groups

		Has breast cancer	Doesn't has breast cancer	P
Age	<25	18(18%)	20(20%)	P=0/601
	25-35	38(38%)	43(43%)	
	>35	44(44%)	37(37%)	
Drug	Yes	17(17%)	19(19%)	P=0/713
	No	83(83%)	81(81%)	
Disease	Yes	35(35%)	33(33%)	P=0/665
	No	65(65%)	67(67%)	
Blood	Yes	3(3%)	0(0%)	P=0/123
	No	97(97%)	100(100%)	

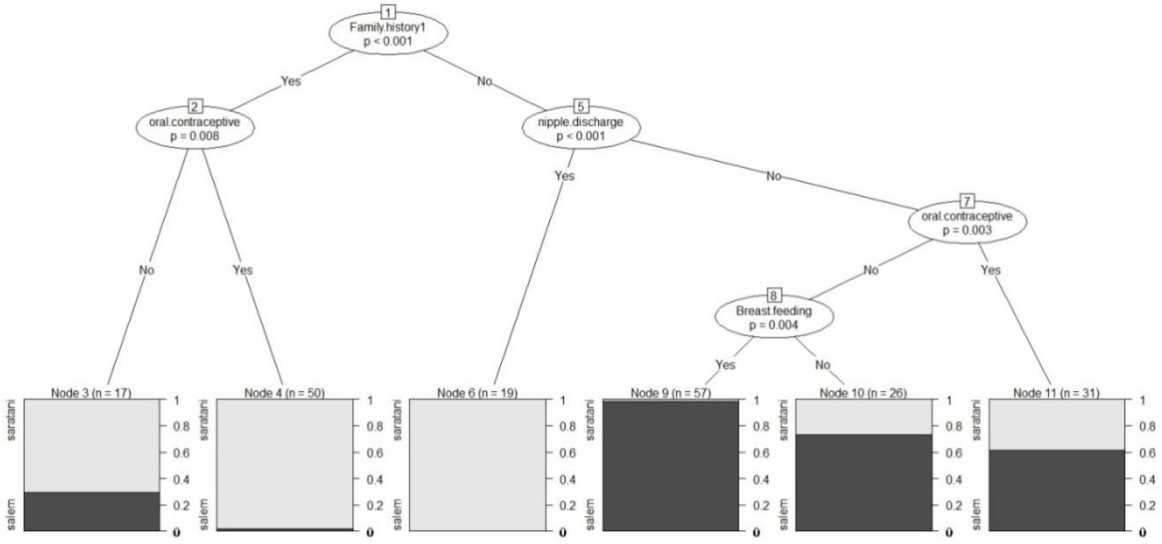

Figure 1: Classification tree to investigate the factors influencing on breast cancer

DISCUSSION

This study demonstrates that the age rangesin women with breast cancer are 15-49 years old and while 40% of women age of less than 30 years old, this indicatesin Ardebil city morbidity age are less than 20 years old. This finding is matching with results study that Vahdaninia and et al have

done. The study Vahidinia and et al show that the age ranges in women with breast cancerwere 26-50 years[16]. The results of the study Hrirchi and et al it showsthat morbidity age of breast cancer is low (15-65 years old)[17]. With use from the classification tree model in Ardabil city obtained effectiverisk factor on breast cancer. The present study showed that, family history of breast canceris a first and important variable that identified. Family history of breast cancer animportant problem is other places and spread of this disease in Asia[18]. These results corresponded to Studies Barnard, Rosato, Turati and et al[19,20]. In the present study, the next variable effective is a contraceptives. There is significantly increased risk of having breast cancer diagnosed. This variable in the study Barnard was also among the factors influencing on breast cancer[19]. But the studies Gaudet and et al do not match. They have been suggested in their study which consumption contraceptives have inverse relationship whit the risk of pregnancy[22]. Another variable that increases the risk of breast canceris the Secretions breast lump.in this study, 43 women had been secretions breast lump that all of them were infected to breast cancer. Studies Chen and Herman and et al confirmed our results[23,24]. The results of this study show Women who were breast feeding had a lower risk of breast cancer . This topic Correspondwhit studies results Kotsiopoulos and et al and Kwan and et al[25,26]. In this study, having a child is not recognized as a risk factor in catching to breast cancer. That's mean pregnancy and increase the number of children does not increase the risk of breast cancer. Azim and et al study has confirmed this result. But this results are conflict for Callihan and et al study. They concluded thatthe risk of death for mothers with children has more than nulliparous mothers[28].

CONCLUSION

The identification of risk factors in this study can be programmed to prevent and control breast cancer. According to the study, must be aware of the community about the effects uses of contraceptive pills inthe increased risk of breast cancer and role of breastfeeding in protecting women from this infection, can be considered in Ardabil province.

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