

# An 8 Years Retrospective Study of Breast Cancer Incidence in Ilam Province, Western Iran

YASEMI M.<sup>1</sup>, HAFEZI AHMADI M.R.<sup>2</sup>, KHAJAVIKHAN J.<sup>3</sup>, PEYMAN H.<sup>4</sup>, ASADOLLAHI K.H.<sup>5</sup>, YASEMI M.R.<sup>6</sup>, HEMATI K.<sup>7</sup>

## ABSTRACT

**Introduction:** Breast cancer is the most common cancer (27% of all cancers) and common cause of death (16%) which occurs due to cancers among women, either in developed or developing countries. The current study aimed to assess incidence of breast cancer in west of Iran (Ilam province).

**Methods:** During a cross-sectional study, all documented records of patients who were referred to the health centre of Ilam province in a period of 8 years (2002-2009) were investigated and 82 files which were related to breast cancer were identified. Patients' data were entered into SPSS, version 16 and using X<sup>2</sup>, t-test and descriptive statistics, they were analyzed.

**Results:** Totally, 82 confirmed breast cancer cases were diagnosed between 2002-2009 and this figure accounted for 21.4% of all cancers in Ilam province. The mean age with

standard deviation (SD) of patients was  $47.4 \pm 14.5$  years and the disease was most frequent in the age group of 30-40 years (38.3%). The highest incidence rate was seen in 2006-2007 and the lowest rate was seen in 2002-2003. The most prevalent morphologic pattern of breast cancer (86.2%) was invasive ductal carcinoma (IDC). There was a 23% incidence rate for breast cancer, with a significant increase in its incidence rate during 2002-2009.

**Conclusions:** Due to diagnosis of the disease in its advanced stages, and also involvement of low age groups and young population in the country, screening programs such as self examination, examination by doctors and mammography should be started in the lower age groups, in ages which are lower than 30 years.

**Keywords:** Breast cancer, Breast self examination-incidence-ilam

## INTRODUCTION

The second cause of death in the world (after cardiovascular disease) is cancer and its world burden has increased twice during the past 30 years [1,2]. There are more than 200 types of cancers, 4 of which include breast, lungs, colorectal and prostate cancers which compromise more than half (54%) of all cancers and the mortality caused by these accounts for 47% of all deaths caused by cancers [3]. Breast cancer is the most common type of cancer (27%) and the most prevalent cause of death (16%) which occurs due to cancer among women, either in developed or developing countries [1,4]. According to study reports of 2002, breast cancers among both males and females had attained the second rank and it also accounted for 27% of all cancers in 2005 [5]. More than one million new cases of breast cancer and about 600000 deaths caused by it are being reported annually [3].

According to National Cancer Institute report of 2009, the numbers of new cases of invasive and in situ breast cancers among American women were 19370 and 62280 respectively and the number of deaths caused by breast cancer was 40175 [6]. Different cancers in Great Britain accounted for 298000 cancer cases, among which lungs covered 22% of them, colorectal covered 10% and breast cancer covered 8% of all cancers, being the most prevalent in order respectively [7].

According to WHO report, the incidence of breast cancer is increasing by 2% annually [8]. The life time risk caused by breast cancer among all Iranian women in 2005-2007 was 12.5% [9], and this risk was 11.1% among American women [10]. Though the prevalence of breast cancer among Asian women as compared to that among women in western countries was relatively low; its incidence process was higher [11]. Some factors such as longevity and alterations in the pattern of nationality among Asian women as compared to those which were seen in the past decades, may

be related to this phenomenon [1]. Breast cancer is the most prevalent malignancy among Iranian women (24.4% of all cancer) and its raw incidence and ASR in 2005-2006 were 17.8% and 23.7% respectively [12].

Ilam province which has a population of 620000, is located in the west region of Iran. According to the studies done in 2005-6, the incidence rate of breast cancer among Ilamian women was 13.3% and its highest incidence rate was seen among those who were 35-40-years-old, which was one decade lower than was mentioned in global reports [13]. No comprehensive studies have been related to breast cancer and its relevant factors in the western cities of Iran, and this study aimed to investigate the prevalence and incidence rates of this cancer in a period of 8 years (2002-2009) in Ilam province.

## MATERIAL AND METHODS

The current project was a retrospective, cross-sectional study. Patients who were referred to the health centre of Ilam province between 2002-2009 were interrogated and among all documented records, a total of 82 files were related to breast cancer.

Inclusion criteria was all patients with definitive breast cancer diagnosis documents and exclusion criteria was patients without pathology documents and pathology documents without definitive diagnosis.

Patients' demographic and clinical data were collected via separated sheets and variables such as age, year of diagnosis, type of diagnosed mass and the side of involved breast were recorded in the check lists.

Data were then entered into SPSS, version 16 and by using X<sup>2</sup>, t-test and descriptive statistics, they were analyzed to investigate the 8 years' incidence of breast cancer. A p-value of less than

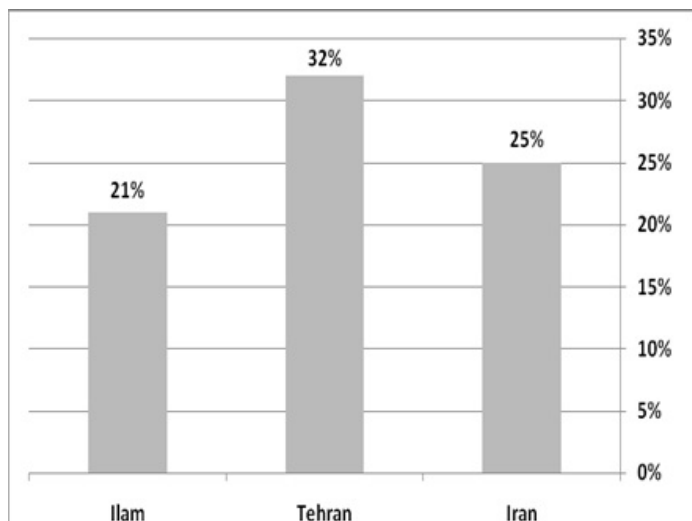
0.05 was considered as significant. For doing the study, all global ethical instructions on gathering data and paper publishing were precisely considered.

## RESULTS

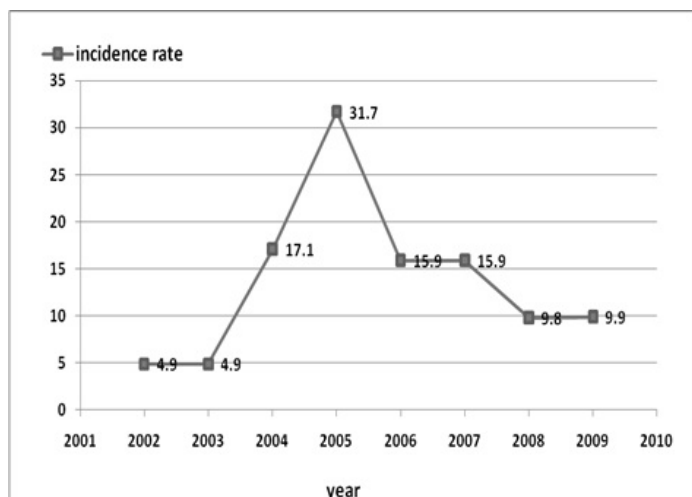
Totally, 82 confirmed breast cancer cases were diagnosed between 2002-2009 and this figure accounted for 21.4% of all cancers in Ilam province. The incidence rate of breast cancer in Ilam province as compared to that in Tehran and country rates has been indicated in [Table/Fig-1].

The mean age and standard deviation (SD) of patients was  $47.4 \pm 14.5$  years and their ages ranged from 26-97 years. The disease was most frequent in the age group of 30-40 years (38.3%), followed by age groups of 50-60 years (25.5%) and 40-50 (14.9%) years. 8.5% of patients were than 30-years-old and 12.8% were more than 60 years old. The highest incidence rate was seen in 2006-2007 and the lowest rate was seen in 2002-2003. [Table/Fig-2] shows incidence rate for breast cancer between 2002-2009 in Ilam province.

A 23% incidence rate for breast cancer was seen in this study, with a significant increase in its incidence rates during 2002-2009. 51.6% of cases had breast involvements on the left side, 46.9% had them on the right side and 1.5% had bilateral involvements. Though, there was no significant relationship between age and side of involvement ( $p > 0.05$ ); left side involvement was found to be higher in the age group of 40-50 years and right side involvement was found to be higher in the age group of 50-60 years.

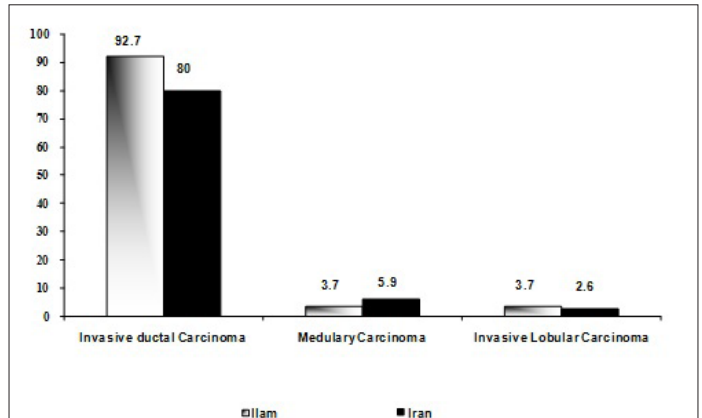


[Table/Fig-1]: The incidence rate of breast cancer (among all diagnosed cancers) in Ilam province compared to Tehran and Iran rates between 2002-2009



[Table/Fig-2]: Incidence rate for breast cancer between 2002-2009 in Ilam province

The most prevalent morphologic pattern of breast cancer (86.2%) was that of invasive ductal carcinoma (IDC). A significantly higher percentage of IDCs was seen in 2005 as compared to those which were seen in other investigated years ( $p < 0.0001$ ). According to the results of this study, the incidence rate of invasive ductal carcinoma in Ilam province was higher than the figure which was seen overall in Iran [Table/Fig-3].



[Table/Fig-3]: Distribution of morphologic pattern of breast cancer in Ilam province compared to its incidence rate in Iran 2002-2009

## DISCUSSION

According to a recent study which was done in Iran, breast cancer was found to be the third leading cause of death in Iran. The current study aimed to evaluate the incidence rate of breast cancer in Ilam province in 2002- 2009. Totally, a 23% incidence rate for breast cancer was seen, with a significant increase in its incidence rate during 2002-2009.

In the current study, breast cancer was found to be most frequent in the age group 30-40 years. An American study reported that during 2003-2007, the highest incidence rate for breast cancer among American women was seen in the age group of 55-65 years, who had a mean age of 61 years. The highest incidence rate seen in other reports from Iran was seen in the age group of 45-49 years, followed by the age group of 40-44 years [6,8,9,14]. These reports showed that the age group for breast cancer incidence in Iran as compared to that seen in other countries had decreased by one decade and it had decreased even more in the current study. Though different studies reported a low prevalence of breast cancer in the world for the age group of less than 30 years; in some studies done in Iran [8] as well as in the current study, this prevalence was found to be considerable (it was 8.5% in the current study). These results pointed to a need for breast cancer screening in the age group of less than 30 years in our country, for diagnosing this disease at its primary stages.

Regarding morphologic pattern of breast cancer, invasive ductal carcinoma was the most common type which was seen, which was in accordance to other reports from Iran [2] and other parts of the world [6]. According to different reports from Iran, a considerable percentage of patients with breast cancer was suffering from advanced stages of this disease during primary diagnosis, for example 70.2% and 20-25% in Zafarghandi [9] and Shiraly [15] respectively. However, this percentage was found to be lower in other countries, for example, it was 10% and 15% for Carlton and Victoria respectively [16,17]. These differences may be related to the different screening programs for breast cancer.

According to the results of this study and literature review, breast cancer is an important disease and it is going to rank as the number one cancer among Iranian women. Due to its diagnosis at advanced stages and also involvement of low age groups and young population in the country, screening programs such as self examination, examination by doctor and mammography, should be started in the lower age groups.

## LIMITATION OF THE STUDY

Some of important study limitations were incompleteness of patient records in the province health centre and non-collection of their addresses. The cancer registry system of Iran is not always online and it is not always updated. Also, reported statistics of Iranian Cancer Registry system is based on birth sites (no life sites) of patients and thus, we couldn't use it in the study.

## ACKNOWLEDGMENT

The authors would like to thanks all the participants who cooperated in this study.

## REFERENCES

- [1] WHO. The 10 leading causes of death by broad income group (2008). [cited June 2011]; Available from: <http://www.who.int/mediacentre/factsheets/fs310/en/index.html>.
- [2] Harirchi I, Kolahehdoozan S, Karbakhsh M, Chegini N, Mohseni SM, Montazeri A, et al. Twenty years of breast cancer in Iran: down staging without a formal screening program. *Ann Oncol*. Jan; 22(1):93-7.
- [3] Parkin DM, Bray F, Ferlay J, Pisani P. Global cancer statistics, 2002. *CA Cancer J Clin*. 2005 Mar-Apr; 55(2): 74-108.
- [4] Fallah M. Cancer Incidence in Five Provinces of Iran. Ardebil, Gilan, Mazandaran, Golestan and Kerman, 1996 – 2000. *University of Tampere J*. 2007;24:14-27.
- [5] Parkin DM, Muir CS. Cancer Incidence in Five Continents. Comparability and quality of data. *IARC Sci Publ*. 1992; 120: 45-173.
- [6] Howlader N NA, Krapcho M, Neyman N, Aminou R, Waldron W, Altekruse SF, et al. SEER Cancer Statistics Review, 1975-2008, *National Cancer Institute*. 2011 [updated 2011; cited]; Available from: [http://seer.cancer.gov/csr/1975\\_2008/](http://seer.cancer.gov/csr/1975_2008/).
- [7] Cancer Research UK. Breast cancer statistics. 2008 [updated 2008; cited June 2011]; Available from: <http://info.cancerresearchuk.org/cancerstats/types/breast/incidence>.
- [8] Henderson IC, Canellos GP. Cancer of the breast: the past decade (second of two parts). *N Engl J Med*. 1980 Jan 10; 302(2):78-90.
- [9] Zafarghandi A HI, Ebrahimi M, Zamani N, Jarvandi S, Kazemnezhad A. Breast cancer in Iran: A review of 3085 pathological records. *Tehran University Medical Journal (TUMJ)*. 1998; 56(5):42-7.
- [10] Miller BA, Feuer EJ, Hankey BF. Recent incidence trends for breast cancer in women and the relevance of early detection: an update. *CA Cancer J Clin*. 1993 Jan-Feb;43(1): 27-41.
- [11] Shibuya K, Mathers CD, Boschi-Pinto C, Lopez AD, Murray CJ. Global and regional estimates of cancer mortality and incidence by site: II. Results for the global burden of disease 2000. *BMC Cancer*. 2002 Dec 26;2:37.
- [12] Mousavi SM, Gouya MM, Ramazani R, Davanlou M, Hajsadeghi N, Seddighi Z. Cancer incidence and mortality in Iran. *Ann Oncol*. 2009 Mar;20(3):556-63.
- [13] Kolahehdoozan S, Radmard A.R, Khademi H. Five Common Cancers in Iran. *Arch Iran Med*. 2010;13(2):143-6.
- [14] Montazeri A, Vahdaninia M, Harirchi I, Harirchi AM, Sajadian A, Khaleghi F, et al. Breast cancer in Iran: need for greater women awareness of warning signs and effective screening methods. *Asia Pac Fam Med*. 2008;7(1):6.
- [15] Shiraly R, Asadollahi Kh, Asadollahi P. Risk Perception and Preventive Issues for Breast Cancer among Female Employees. *Iran J Cancer Prev*. 2010; 4:166-73.
- [16] Hill DJ, Giles GG, Russell IS, Collins JP, Mapperson KJ. Management of primary, operable breast cancer in Victoria. *Med J Aust*. 1990 Jan 15; 152(2):67-72.
- [17] [No authors listed]. A mammographic screening pilot project in Victoria 1988-1990. The Essendon Breast X-ray Program Collaborative Group. *Med J Aust*. 1992 Nov 16; 157(10): 670-3.

### PARTICULARS OF CONTRIBUTORS:

1. Members of Researches Committee, Ilam University of medical science, Ilam, Iran.
2. Assistant Professor, Department of Pathology, Ilam University of medical sciences, Ilam, Iran.
3. Assistant Professor, Department of Anesthesia, Ilam university of medical science, Ilam, Iran.
4. Researches Center for Prevention of Psychological Injuries, Ilam University of medical sciences, Ilam, Iran.
5. Assistant professor, Department of Epidemiology, Ilam University of medical sciences, Ilam, Iran.
6. Members of researches committee, Ilam University of medical science, Ilam, Iran.
7. Assistant professor, Department of Anesthesia, Ilam university of medical science, Ilam, Iran.

### NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:

Dr. Hemati K.,  
Assistant Professor, Department of Anesthesia, Ilam University of Medical Science, Ilam, Iran.  
Phone: 0841-3331933, +989124249129, E-mail: khematy@gmail.com

Date of Submission: **Sep 11, 2013**  
Date of Peer Review: **Oct 19, 2013**  
Date of Acceptance: **Nov 11, 2013**  
Date of Publishing: **Dec 15, 2013**

FINANCIAL OR OTHER COMPETING INTERESTS: None.