Chronic Diseases Journal

Reducing the incidence of cancers in Iran with more attention to personal and environmental risk factors

Ali Poormohammadi[1], Manoochehr Karami[2], Keivan Saedpanah[3]

1 PhD Candidate, Social Determinants of Health Research Center AND Department of Environmental Health Engineering, School of Public Health, Hamedan University of Medical Sciences, Hamedan, Iran
2 Associate Professor, Social Determinants of Health Research Center AND Department of Epidemiology, School of Public Health, Hamedan University of Medical Sciences, Hamedan, Iran
3 MSc Student, Department of Occupational Health Engineering, School of Public Health, Hamedan University of Medical Sciences, Hamedan, Iran

Letter to Editor

Editor in Chief

Cancer is a generic name for a large number of diseases associated with abnormal growth of cells. It is estimated that one out of every three people will develop cancer at different stages during their lifetime. In addition, one of four patients will die from the disease. In recent years, the number of cancer patients has increased considerably.[1] Cancer is recognized as the second cause of death in developed countries and as the third cause of death in Iran.[2] The incidence of cancers and their resulting mortality have been reported by the American Cancer Society.[3] To qualify as a common cancer, the estimated annual incidence for 2016 had to be 40,000 cases or more. Based on the list provide by the American Cancer Society, the most common type of cancer is breast cancer, with more than 249,000 new cases in the United States in 2016.[3] The next most common cancers are lung cancer and prostate cancer. A similar growing trend is seen in Iran. Most common cancers in Iran include cancer of the breast, stomach,

esophagus, colon rectal, bladder, and leukemia.[1] Most cancers are attributed to genetic factors, lifestyle, and exposure to occupational and environmental carcinogenic compounds. Most of these mentioned factors can be controlled or prevented. Tobacco smoking, dietary factors, overweight, and alcohol consumption account for 34% of total cancers occurring in 2010 in the United Kingdom.[4] Breast cancer is one of the most commonly diagnosed cancers among women in Iran. The prevalence of this cancer was lower in Asian countries than developing countries, but in these countries it is increasing. In Iran, 76% of the most common cancers in women were related to breast cancer.[1-5] Age, history of breast disease, genetic factors, and environmental factors are among the risk factors associated with the development of breast cancer.[5] Among these risk factors, alcohol consumption, obesity, and physical inactivity are considered as the main preventable risk factors for 21% of the total number of deaths due to breast cancer in the world. Changes in lifestyle and eating habits in recent years have caused breast cancer to become more common at younger ages and in urban communities.[5] Unnecessary radiation

Corresponding Author:
Manoochehr Karami
Email: ma.karami@yahoo.com

exposure is one of the avoidable risk factors for cancer breast,[2] while other factors can also be controlled and are avoidable. Leukemia is recognized as a commonly diagnosed cancer in children. In Iran, the prevalence of leukemia is 7.7 and 4.0 per 100000 people/year among men and women, respectively.[1] It is reported that chronic exposure to benzene and ionizing radiation are the main risk factors for leukemia. Exposure to benzene and ionizing radiation are generally attributed to individual's jobs and are partly avoidable in workplaces.[6] Skin cancer alone includes 5.2–32.7 percent of all cancers in Iran.[1,7] The incidence of skin cancer has been increasing in recent decades in Iran. Most cancer cases are associated with exposure to sunlight, changes in climate, thickness of the ozone layer, and personal and social habits that can also explain this increase. Studies indicated that there is a significant association between latitude of a region and incidence of skin cancer. Thus, in more southern latitudes, the number of skin cancer cases is remarkably higher.[7] Bladder cancer is the second and third most common cancer among men in Markazi and Kurdistan provinces, and the fourth most common in Iran.[8] Known risk factors associated with bladder cancer are urinary tract infections, diabetes, water pollution, dietary factors, fluid intake, coffee drinking, drugs, exposure to aromatic amines, smoking, and a family history.[8] In addition, low intake of fruits and vegetables, and consumption of opium and hot drinks are associated with esophageal cancer.

Esophageal cancer is the second and third most common malignancy in Iranian men and women, respectively.[9] Colon cancer can be prevented by reducing the intake of red and processed meat and increasing the consumption of fruits and vegetables (fibre). On the other hand, the presence of high concentrations of nitrate in vegetables and the overuse of chemical fertilizers can cause stomach cancer. The use of chemical fertilizers can be decreased, and thus, it can be considered as an avoidable risk factor. The incidence of colorectal cancer is lower in Iran than in Western countries. Colorectal cancer is the fifth and third most common cancer in men and women in Iran.[10] Two out of ten cancer deaths in Iran can be prevented through not smoking.[11] Physical activity is associated with reduced risk of lung, colon, and breast cancers.[11,12] It has been reported that strenuous physical activity reduces the risk of stomach cancer.[9] In recent years, a dramatic increase in the prevalence of smoking, obesity, inactivity, and improper diet has been observed in Iranian cities.[12-14] On the other hand, with the increasing population of the elderly in Iran, it is expected that new cases of various cancers will increase in the next decades.

In conclusion and in line with the scope of this journal, it is necessary to pay further attention to studies assessing public awareness level regarding the role of risk factors in the prevention of cancers and offering solutions to improve individuals' lifestyle in terms of cancer prevention.

Citation: Poormohammadi A, Karami M, Saedpanah K. **Reducing the incidence of cancers in Iran with more attention to personal and environmental risk factors.** Chron Dis J 2016; 4(1): 31-3.

References

1. Kolahdoozan S, Sadjadi A, Radmard AR, Khademi H. Five common cancers in Iran. Arch Iran Med 2010; 13(2): 143-6.
2. Keyghobadi N, Rafiemanesh H, Mohammadian-Hafshejani A, Enayatrad M, Salehiniya H. Epidemiology and trend of cancers in the province of Kerman: southeast of Iran. Asian Pac J Cancer Prev 2015; 16(4): 1409-13.
3. American Cancer Society. Cancer facts & figures 2016 [Online]. [cited 2016]; Available from: URL: http://www.cancer.org/research/cancerfactsstatistics/cancerfactsfigures
4. Parkin DM, Boyd L, Walker LC. 16. The fraction of cancer attributable to lifestyle and environmental

factors in the UK in 2010. Br J Cancer 2011; 105(Suppl 2): S77-S81.

5. Faradmal J, Talebi A, Rezaianzadeh A, Mahjub H. Survival analysis of breast cancer patients using Cox and frailty models. J Res Health Sci 2012; 12(2): 127-30.

6. Gholami A, Salarilak S, Hejazi S, Khalkhali HR. Parental risk factors of childhood acute leukemia: a case-control study. J Res Health Sci 2011; 11(2): 69-76.

7. Goldberg LH. Malignant Skin Tumors. Plast Reconstr Surg 1992; 89(3): 569.

8. Bachir BG, Kassouf W. Cause-effect? Understanding the risk factors associated with bladder cancer. Expert Rev Anticancer Ther 2012; 12(12): 1499-502.

9. Habibi A. Cancer in Iran. A survey of the most common cases. J Natl Cancer Inst 1965; 34: 553-69.

10. Barekat AA, Saidi F, Dutz W. Cancer survey in south Iran with special reference to gastrointestinal

neoplasms. Int J Cancer 1971; 7(2): 353-63.

11. Yazdizadeh B, Jarrahi AM, Mortazavi H, Mohagheghi MA, Tahmasebi S, Nahvijo A. Time trends in the occurrence of major GI cancers in Iran. Asian Pac J Cancer Prev 2005; 6(2): 130-4.

12. Amori N, Aghajani M, Asgarian FS, Jazayeri M. Epidemiology and trend of common cancers in Iran (2004-2008). Eur J Cancer Care (Engl) 2016.

13. Menbari MN, Rahmani SA, Ahmadi A, Zandi F, Bagheri N, Jalili A, et al. Evaluation of E-cadherin (CDH1) Gene Polymorphism Related to Gastric. Life Sci J 2013; 10(12s): 212-6.

14. Hosseini J, Mahmoodi M, Jalili A, Fakhari Sh, Hosseini-zijoud SM, Tahamtan M, et al. Aloe-emodin induces apoptosis through the up-regulation of FAS in the human breast cancer cell line MCF-7. Life Sci J 2014; 11(2s): 47-53.