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Review Paper

Current Status of Cancer Research, Diagnosis and Therapy in Iran-2015:An Update

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ABSTRACT

The burden of cancer is increasing rapidly during the last decade and it is expected that it will rise intensely in the future because of anticipated increased life expectancy and modern lifestyle. One of the first steps to control cancer is to collect data in the framework of cancer registries as well as conducting research in various cancer related areas, which could be achieved through establishment of cancer research network in Iran. The other important issue is not follow the early detection and prevention protocols and along treatment procedures. Considering the fact that cancer is the third leading cause of death in Iran, it is required that health system should try to meet the demands related to the diagnosis, treatment and palliative care of cancer patients. This review addresses the current status of research, diagnosis and therapy related to cancer in Iran.

Key words: Cancer, Research, Diagnosis, Therapy, Iran

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Corresponding to the global status of cancer, the burden of cancer is increasing in Iran in recent decades (1, 2). Cancer is the third leading cause of death in Iran after coronary heart disease and accidents (3). Recent studies indicate an age adjusted incidence of 165 per 100,000 men and 141 per 100,000 women of all kinds of cancer in the population of Tehran. In terms of cancer risk and incidence, this population is a fairly representative population of the whole country (4). From 1996 to 2000, a retrospective survey was carried out to ascertain the incidence of cancers in five provinces including Ardebil, Guilan, Mazandaran and Golestan in the north, and Kerman in the south of Iran. These provinces covered about 16 percent of the population of Iran in 1996. Available medical records of cancer patients in public/private hospitals and diagnostic/ treatment facilities as well as death certificates of these five provinces were collected. During this period, there were 28,022 new cancer cases (57% men; 42% women; 1% unknown sex).

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The mean age at diagnosis was 55 (median age 60). In terms of age-standardized rate (per 100,000), the most common cancers in men were stomach (22.5), esophagus (12.1), bladder (7.5), lung (6.5), colon/ rectum (6.2) and prostate (5.6). The leading female cancers were breast (13.3), stomach (9.3), esophagus (8.9), colon/rectum (6.0), leukemia (2.4) and cervical cancer (2.3). It was predicted that the annual number of new cases in year 2010 in Iran compared to 1996 increased 65% (95% in women; 46% in men) at least to 53,000 persons. Generally, the incidence of cancer in Iran was among lowest in the world. It is expected that it will rise dramatically in the future because of anticipated increase in life expectancy and westernized lifestyle. This increase in the number of new cases is a huge burden for the health care system (5).

Without correction, cancer occurrence measures can be remarkably under-estimated. Therefore, measuring the actual incidence rate of cancer requires the use of appropriate epidemiological methods. Fallah M. and Kharazmi E. used a novel method to compensate under-ascertainment of cancer cases in the very elderly (aged >65) to calculate corrected Iran cancer incidence. The crude rate was 13.6% (men 18.7%; women 8.1%) under-estimated. The under-enumeration was 18.9% for the age standardized rate (men 25.4%; women 11.8%). There were about 7,000 new cancer cases more than original report (by 58,000 new cancer cases) in 2002. Accordingly, corrected incidence for the year 2050 will be 26.1% higher (men 32.8%; women17.3%) than the original estimate (49,000 more) (6).

Cancer registry status: Cancer registry is an important tool for any successful cancer control program. Based on the report by Parkin et al (2002), there are only three countries around Iran including Oman, Kuwait and Pakistan that have population-based cancer registry (7). Compulsory report of cancer cases as a bill, was passed by Iranian Parliament in 1984. This was a good basic action that led to microscopic verification of the majority of cancer cases in Iran. Established cancer registries in Iran are including Mazandaran, Tehran, Shiraz, Ardabil and Iranian National Cancer Registry. The registry strategy has undergone several modifications over the past decades. The obligation to notify the cancer registries of new cancer cases has been a legal requirement since 1994. While only 18% of all estimated cancer cases were reported in the first reports, this rate increased to 81% in 2005 following establishment of cancer registries. But reporting to the Ministry of Health Registry was far from complete (8) .

Cancer Research Status

A network of cancer researchers was established in 1998 in order to develop better means of communication, resource sharing and effective research management as well as preventing inefficiency and wasting of resources available to cancer researchers and scientists in Iran. The overall assessment of this study indicated the top first five areas of research priorities on cancer including;

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1) Cancer surveillance and registration as the first priority; 2) Exogenous factors related to the origin and cause of the cancer; 3) Surveillance - patient care and survivorship issues; 4) Issues of patient quality of life end-of-life care; and 5) Cost analyses and health care delivery of cancer services (9).

Cancer Diagnosis

Although, cancer patients access to the expert professionals as well as sufficient cancer detection facilities in Iran, but the delay in diagnosis is still an important issue (10). The delay time in diagnosing and treating different cancers in various studies is about 2 to 5 months (11).

Delay in diagnosis affects the treatment and prognosis of cancer. Studies showed that delays related to the patients were longer than those related to the professionals (12, 13). Patient delay makes a critical contribution to late diagnosis and poor survival in cases of cancer. Delayed presentation of asymptomatic cancer is a public health issue in Iran, making a major contribution to low survival. Despite the importance of this problem, current knowledge is insufficient to inform interventions to shorten patient delay. Finding of a qualitative research on breast cancer revealed four main themes related to the delay in seeking medical help including: 1) attributing symptoms to the benign conditions; 2) conditional health behavior; 3) inhibiting emotional expression; and 4) barriers to access to health care systems (14).

A meta-ethnography, which synthesized existing qualitative evidence in order to gain a new understanding of help seeking behavior in women with self-discovered breast cancer symptoms led to identification of eight repeated key concepts including: symptom detection, initial symptom interpretation, symptom monitoring, social interaction, emotional reaction, priority of medical help, appraisal of health services and personal-environmental factors. Symptom interpretation was identified as the important step of the help seeking process, which changed across the process through active monitoring of symptoms, social interactions and emotional reactions. The perceived seriousness of the situation, priority to receive medical attention, perceived inaccessibility and unacceptability of the health care system influenced women's decision-making about using health services. Educational programs aimed at correcting misunderstandings, erroneous social beliefs and improving self-awareness could provide key strategies to improve health policy which would reduce patient delay (15).

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Therapeutic and Care Issues

A correct cancer diagnosis is essential for adequate and effective treatment because every type of cancer requires a specific treatment regimen which encompasses one or more modalities such as surgery, and/or radiotherapy, and/or chemotherapy. These modalities are provided in the world-class cancer treatment in Iran (16-18). In recent decades, there was an excellent progress regarding cancer care and treatment in Iran. But, we need to have access to more advanced techniques and methods including Molecular Medicine, Nanomedicine, and non-invasive therapeutic procedures. Studies showed that using complementary and alternative medicine among Iranian cancer patients is unpopular (19). The primary goal of the therapeutic procedures is to cure cancer. Improving the patient's quality of life is also an important goal which is seriously placed on the agenda of cancer care. It can be achieved by supportive or palliative care and psychological support (20, 21).

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Conclusion

The evidence suggests an increased prevalence of cancer in Iran. Despite significant progress in the diagnosis methods and treatment procedures of cancer in Iran, we still need a comprehensive strategic plan to manage all aspects of the relevant cancer care services. According to the national upstream health documents and strategies, it is possible to control the cancer tsunami, by focusing on improvement the public life style.