



A Comparative Study on Cancer Prevention Principles Between Iranian Traditional Medicine and Classic Medicine

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ABSTRACT

Cancer is one of the three main causes of mortality in most human communities whose prevalence is being increased. A significant part of health budget in all countries has been allocated to treat the cancer, which is incurable in many cases. It has led the global health attitude to cancer prevention. Many cancer-related risk factors have been identified for which preventive recommendations have been offered by international organizations such as World Health Organization. Some of the most important of these risk factors are smoking and alcohol consumption, hypercaloric and low-fiber diet, obesity, inactivity, environmental and industrial pollution, some viral infections, and hereditary factors. Exact reviewing of Iranian-Islamic traditional medicine (IITM) resources determines that preventive rules, which named as six essential rules (*Sitteh-e-Zarurieah*) are abundantly found, including all identified cancer-related risk factors. These preventive rules are: Air (*Hava*), body movement and repose, sleep and wakefulness, food and drink, evacuation and retention, and mental movement and repose (*A'raz-e-Nafsan*). The associated risk factors in classic medicine are: Smoking and air pollution, sedentary life, sleep disturbance, improper nutrition and alcohol, chronic constipation, and psychoneurotic stresses. Moreover, these rules are comprehensive enough to include many of the other harmful health-related factors whose roles have been confirmed in the occurrence of different diseases, except cancer. Apparently, cancer prevention in Iran would be more successful if the sextet necessary rules of IITM are promoted among the populations and health policy makers.

Keywords: Cancer, comparative study, prevention, traditional medicine

INTRODUCTION

Cancer is, nowadays, one of the main three causes for mortality throughout the world leading to the annual death of more than 8 million people.^[1] Although near to half of cancer cases are preventable, according to the last World Health Organization (WHO) advices,^[1] the cancer incidence is being increased due to improper life style and prevalence of westernized modes in the

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nutritional habits of developing countries such as Iran.^[2,3]

In Iran, cancer is considered as the third cause of mortality after car accidents and cardiovascular diseases whose prevalence is being increased, according to the recent studies.^[4] The age standardized incidence rate of cancers has been estimated about 98 and 110 per 100,000 among Iranian females and males, respectively. Moreover, the estimated mortality rate for cancer was 41.1 and 65 per 100,000 for Iranian females and males, respectively, in 2004.^[5] Although the incidence rate of cancer among Iranians is lower than the most developed countries, recent studies have presented an increasing trend of cancer among our populations.^[6,7] The five most common cancers (except skin cancer) among Iranian populations are stomach, esophagus, colorectal, bladder, and leukemia in males, and in females are breast, esophagus, stomach, colon-rectum, and cervix uteri.^[8] Therefore, the gastrointestinal cancers whose incidence is more dependent to life style habits are more common among Iranians. Hence, the age of cancer incidence is being reduced, which is directly related to the life style change of the Iranian people, particularly juveniles to westernization.^[8]

Iranian traditional medicine is an ancient, comprehensive school (*Maktab*) with a several 1000 years history, which has been concluded of the knowledge and experiences of many great scientists along with many centuries. Every one of these scientists has had a significant role in promoting the human knowledge.^[9]

Islamic medicine was concluded of Holy Quran and Ahlul-Bayt doctrine. It was compounded with Iranian traditional medicine after emerging of Islam among Iranian populations, leading to the birth of Iranian-Islamic traditional medicine (IITM).^[10] One of the most important preferential aspects of IITM school in comparison to other medical schools is the essential role of health prevention and maintenance which has been discussed as *Hefz-o-ssehah* or six essential rules (SER) (*Sitteh-e-Zaruriedh*). For example, Avicenna, a great ancient Iranian scientist, has invented the following comprehensive description for the medicine: "The health maintenance when you are healthy, and its restoration when you are sick."^[11]

Although there are some similarities between IITM preventive principles and Traditional Chinese Medicine (TCM), in IITM the human has been more recommended to develop an advanced relation with the Lord. In TCM, people are advised to comply with nature, along with proper diet, physical activity, and mental habits.^[12,13]

If we study SER in IITM carefully, we will find that these rules include most of the identified health-threatening risk factors, so our health could be ensured by observing

them. A significant preferential property of SER in IITM is simultaneous attention to all existential aspects of the human, covering both corporal and spiritual sides. In these rules, the relation between human and God has been even considered as the most determinant factors to ensure the human health.^[14,15]

Human health, according to IITM, is due to balancing of four natural body fluids: Blood, phlegm, yellow bile, and black bile. This balance is concluded of three to four digestive processes via natural digestive system through the gastrointestinal tract, liver, blood, and cells. Cancer is due to chronic mal-temperament (*Soo-e-mazaj*) and disturbance in third and fourth natural digestion of the body leading to pathologic accumulation of the burned black bile in different organs.^[16-18] This is preventable by observing SER and maintenance of natural temperament in an equilibrium state.^[19]

We discuss in this paper about SER in IITM, using ancient valid medical resources, and a comparative analysis is provided between the preventive advices recommended by WHO and other world scientific centers and SER according to the new evidence-based studies.

ESSENTIAL PREVENTIVE RULES IN IRANIAN-ISLAMIC TRADITIONAL MEDICINE

Preventive rules in IITM or *Hefz-o-ssehah* had been ever emphasized in ancient IITM books as the name: *Sitteh-e-Zarurieah* or SER. These rules are: Air (*Hava*), body movement and repose, sleep and wakefulness, food and drink, evacuation and retention, and mental movement and repose (*A'raz-e-Nafsani*).^[20]

Air (HAVA)

According to IITM, air is one of the most important factors affecting the human health. Air modulates the body temperature, and if it is polluted or infected could affect the human through respiration.^[21] Moreover, both the geographic properties of habitat and time or different seasons could influence on basic temperament equilibrium of the human and play a determinant role to ensure the human health.^[20]

The best air, according to IITM, is the outdoors air free of any impurities and pollution, and compatible in terms of temperature and moisture with human temperament in an equilibrium state.^[22] Different methods have been discussed to ventilate and infiltrate the air in IITM and proper air has been separately defined for each temperament.^[21]

Nowadays, the role of air pollution in cancer incidence has been obviously identified.^[23] The different industrial and chemical pollutants such as heavy metals in the smoke of vehicles and even indoor smoking could

increase the risk of cancer in the encountered persons.^[24-26] According to Global Burden Disease Project data, 3.2 million deaths were occurred due to the air pollution during 2010 throughout the world of which about 223,000 cases were just related to the lung cancer.^[23] Unfortunately, there is no research-based evidence for air pollution and its associated cancers in Iran.

Body movement and repose

According to IITM, adequate mobility and physical activity, proportional with temperament, is so important in health maintenance. It could provide the body heat, which is essential for fitness and if it is balanced with inaction, it could provide our necessary moisture too.^[21] IITM scientists believe that exercise and physical activity have a determinant role to excrete the waste material and corrupt humors from the body. They also believe that the exercise would be the most beneficial when it is done continuously and gently than vigorously. Moreover, the best time for exercise is after the food is digested and its rest is excreted.^[22]

According to the recent studies and some world creditable centers, physical activity is the most efficient way to prevent the cancer if it would be continuous and also without any long inaction intervals. They also emphasize that complete inactivity more than 4 h continuously behind the desk or computer could increase the risk of many chronic diseases such as cancer.^[26] Physical activity and continuous exercise can also prevent some complications in the cancer patients. For example in one Iranian study, it was revealed that combination exercise training can improve metabolic syndrome parameters in postmenopausal women with breast cancer.^[27]

SLEEP AND WAKEFULNESS

According to IITM, the balance between sleep and wakefulness is so important to provide heat and moisture, which are necessary for the human body, and it has an essential role to maintain the temperament balance.^[21] The amount of sleep for every person depends entirely on the kind of his/her temperament, which is affected by habitat geographic conditions and different seasons too. Moreover, the time of sleeping is very important according to IITM. The best time for sleeping is about 3 h after eating dinner, when the food would pass through the stomach. In IITM, sleeping during the day is not recommended, although a little nap in the middle of the day or right after the meal could be proper. The best time for sleeping, according to IITM, is the time between 10 pm and 5 am and sleeping between dawn and sunrise has some harmful effects on the human health.^[22]

Rather than amount and timing of sleep, the position of sleeping and bed properties are also important in terms of traditional scholars. The best position for sleeping is

the sleep on the right side of the abdomen and sleeping on the stomach and the back is not recommended.^[20] Moreover, the bed should not be too soft or too stiff, while the temperature should be in balance with individual temperament and fitness.^[21]

Recent studies have shown sleep disorders such as sleeping during the day and wake at night create certain hormonal changes in the body which impose immune system disorders and also increase the risk for cancer. For example, changes in the level of melatonin secreted by the pineal gland play a role as a physiological regulator of circadian cycles, sleep control, immune function, and growth of human cells.^[28-32]

FOOD AND DRINK

According to IITM, comestibles play an important role in maintaining human health or the incidence of illnesses. The famous story (*Hadith*) of the Holy Prophet of Islam (PBUH) narrated that: “وَأَكُلْ كُلَّ شَيْءٍ قَدَعَمَلَا” (stomach is the home of all diseases and abstinence is the root of all treatment).

Traditional medicine scientists believe that the human must not eat the meal unless become hungry and he/she must stop eating before the belly would be full. The food should primarily be Halal, and then be compatible with individual temperament. It also, if possible, should be tender (*Latif*), righteous chime (*Saleh chime*), and nutritious (*Kasirol-ghaza*). This means that it is easy to digest and absorb, its digestion creates normal blood and humor, and it has sufficient nutrients to meet the body needs. Food must be compatible with the season and habitat geographic conditions to perform the best efficacy in the balance of body temperament and fitness.^[20-22]

Moreover, IITM consider a significant importance for natural foods and prohibit the people of consuming the ready, unnatural foods. Cooking mode is also attended in IITM and, in essence, the foods which are cooked with gentle heating and in longer time than usual are preferred to the foods cooked in very high temperature and a short time. Most of the edible plants, vegetables, and fruits have therapeutic importance rather than nutritional value, so they are used to treat many diseases in IITM. Moreover, different aromatic, tasty herbal drinks are recommended to balance individual temperament and prevent the incidence of the diseases.^[33-35]

Nowadays, many studies emphasize that more consumption of fruits and vegetables and less eating of fats, fried foods, fast food, and processed foods are essential to prevent cancer. According to the recent studies, short-term high temperature cooking methods such as grilling may increase the risk of cancer.^[36-38] In an

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Iranian study, the cancer incidence among two Iranian populations was compared with Iranian immigrants to two western countries. Accordingly, the incidence of breast and colorectal cancers had been increased four-fold and two-fold, respectively, among immigrant women, likely due to the life style change, particularly western dietary habits.^[39]

EVACUATION AND RETENTION

Natural retention or preservation of necessary materials for body health, and natural puke or excretion of waste material from the body are other important, noteworthy rules of SER in IITM whose balance is essential for the maintenance of health and fitness.

The most important ways of natural evacuation in human body included: Expiration, sweating, excretion, urination, sneezing, natural vaginal discharge, and semen. Morbidity in each of these natural physiological processes can cause the temperament imbalance, and accumulation and deposition of corrupt humors leading to different diseases such as cancer.^[19-21]

Nowadays, medical research has been done just about a few natural ways of retention, evacuation, and their relevance to cancer risk. For example, in some studies, chronic constipation has been identified as a risk factor for breast cancer,^[40] so that in one of these studies, the risk of colorectal cancer in affected people with chronic constipation has been estimated more than 6 times of the people without constipation.^[41]

MENTAL MOVEMENT AND REPOSE (A'RAZ-E-NAFSANI)

Mental movement and repose (*A'raz-e-Nafsani*) in IITM include all mental, psychic states of the human which affect the health and natural temperament much faster than the other principles of SER. According to IITM, mental movement and repose are classified into six categories which include: Anger (*Ghazab*), joyance (*Farah*), horror (*Fazaa*), sadness (*Ghamm*), fear and hope (*Hamm*), and shame (*Khejlal*). The human should establish a balance between him/her carnal events or will be affected to illness. For example, if the sadness in a person is increased, he/she will be gradually depressed, or if he/she is overcome with *Hamm*, obsessive-compulsive disorder and anxiety will be appeared.^[19-21]

Some studies imply that psychological disorders may increase the risk of chronic diseases such as cancer.^[42-46] Moreover, it may not easy to evaluate the effect of stressor factors on incidence of chronic diseases such as cancer which are polygenic due to many factors. It may justify that just a few studies have run in this area.

IRANIAN-ISLAMIC TRADITIONAL MEDICINE HEALTH PRINCIPLES AND CANCER PREVENTION STRATEGIES

Given the comprehensiveness of health-related principles of IITM and its health focused attitude, all cancer preventive strategies should be planned according to community-based education and health promotion within these advanced comprehensive rules. Although some aspects of IITM health principles seem infeasible, particularly among our current modern communities, there are more feasible aspects of these principles about which we need more knowledge and practice to develop them in our life styles.

SUMMARY

We could find that the SER in traditional medicine (Iranian-Islamic) are comprehensive and widespread in all aspects of the human physical and mental health by analytical review of them in comparison with the preventive principles of modern medicine. Although there are many studies in the modern medical literature which approve the preventive role of these essential rules in IITM, a few studies have been conducted in some areas related to these principles. It seems more studies can explore the association between these factors and the risk of many chronic diseases such as cancer. Given the religious and cultural roots of IITM among Iranian populations, it seems Iranian health-related preventive programs would be more successful if SER of IITM are promoted. Attention to these rules by health policy makers could ensure all various aspects of the community health.

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REFERENCES

1. World Health Organization. Fact Sheet No. 297, Cancer; 2014. Available from: <http://www.who.int/mediacentre/factsheets/fs297/en/>. [Last accessed on 2015 Feb 22].
2. Chia KS, Reilly M, Tan CS, Lee J, Pawitan Y, Adami HO, et al. Profound changes in breast cancer incidence may reflect changes into a Westernized lifestyle: A comparative population-based study in Singapore and Sweden. *Int J Cancer* 2005;113:302-6.
3. Hagggar FA, Boushey RP. Colorectal cancer epidemiology: Incidence, mortality, survival, and risk factors. *Clin Colon Rectal Surg* 2009;22:191-7.
4. Kolahehdoozan S, Sadjadi A, Radmard AR, Khademi H. Five common cancers in Iran. *Arch Iran Med* 2010;13:143-6.
5. Mousavi SM, Gouya MM, Ramazani R, Davanlou M, Hajsadeghi N, Seddighi Z. Cancer incidence and mortality in Iran. *Ann Oncol* 2009;20:556-63.
6. Jafari-Koshki T, Schmid VJ, Mahaki B. Trends of breast cancer incidence in Iran during 2004-2008: A Bayesian space-time model. *Asian Pac J Cancer Prev* 2014;15:1557-61.
7. Almasi Z, Rafiemanesh H, Salehiniya H. Epidemiology characteristics and trends of incidence and morphology of stomach cancer in Iran. *Asian Pac J Cancer Prev* 2015;16:2757-61.
8. Radmard AR. Five common cancers in Iran. *Arch Iran Med* 2010;13:143-6.
9. Mousavi-Jarrahi SH, Kasaeian A, Mansori K, Ranjbaran M, Khodadost M,

- Mosavi-Jarrahi A. Addressing the younger age at onset in breast cancer patients in Asia: An age-period-cohort analysis of fifty years of quality data from the international agency for research on cancer. *ISRN Oncol* 2013;2013:429862.
10. Brown E. *Islamic Medicine*. 5th ed. Tehran: Scientific and Cultural Publication; 1992. [1371].
 11. Najmabadi M. *History of Medicine in Iran after Islam*. Tehran: Tehran University; 1987. [1366].
 12. Hatami H. Public health and preventive medicine according to Avicenna. *Sci J Islam Repub Iran Med Coun* 2000;18:223-38. [1379].
 13. Liang ZH, Yin DZ. Preventive treatment of Traditional Chinese Medicine as antistress and antiaging strategy. *Rejuvenation Res* 2010;13:248-52.
 14. Shahrzouri SH. *Nozhat-ol-arvah va Rozat-ol-afrah*. 1st ed. Tehran: Research Institute of History, Islamic and Complementary Medicine; 2004. [1383].
 15. Khorasani A, Shirazi MH. *Gharabadian-e-Kabir*. 2nd ed. Tehran: Mahmoudi Publication; 2000. [1379].
 16. Emami SA, Sahebkar A, Tayarani-Najaran N, Tayarani-Najaran Z. Cancer and its treatment in main ancient books of Islamic Iranian traditional medicine (7th to 14th Century AD). *Iran Red Crescent Med J* 2012;14:747-57.
 17. Zaid H, Saad B. Cancer treatment in the Arab-Islamic medicine: Integration of tradition with modern experimental trails. *J Am Med Inf Assoc (Arabic)* 2010;14:13-40.
 18. Farzaneh N, Khalaj A, Moghadam MH. Cancer terminologies used in the medieval texts to the early modern Iranian traditional medicine (ITM). *J Res Hist Med* 2014;3. doi: 10.1155/2013/136932.
 19. Hatami H, Akbari ME, Mohagheghi MA, Hatami M. Cancer word concepts in medical resources of ancestors. *Med Refinement* 2008;69:51-62. [1387].
 20. Akbarzadeh A, Salehi A, Nimrouzi M. Preventive medicine in view of Hakim Jorjani. *J Med Hist* 2012;13:39-54. [1391].
 21. Naseri M, Rezayizadeh H, Choupani R, Anoushirvani M. A review on Iranian traditional medicine principles. 10th ed. Tehran: Iranian Traditional Medicine Publication; 2013. [1392].
 22. Jorjani SE. *Zakhire-ye-Kharazmshahi*. Corrected by: Moharrari MR. Third Book. Tehran: Iranian Medical Science Culture Publication; 2003. [1382].
 23. Simon S. *Outdoor Air Pollution Causes Cancer*. World Health Organization; 2013. Available from: <http://www.cancer.org/cancer/news/world-health-organization-outdoor-air-pollution-causes-cancer>.
 24. U.S. Department of Health and Human Services. *How Tobacco Smoke Causes Disease: The Biology and Behavioral Basis for Smoking-Attributable Disease: A Report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2010.
 25. National Cancer Institute. *Health Effects of Exposure to Environmental Tobacco Smoke. Smoking and Tobacco Control Monograph 10*. Bethesda, MD: National Cancer Institute; 1999.
 26. National Toxicology Program. *Report on Carcinogens*. 13th ed. U.S. Department of Health and Human Services, Public Health Service, National Toxicology Program; 2005. Available from: <http://ntp.niehs.nih.gov/pubhealth/roc/roc13/index.html>
 27. Nuri R, Kordi MR, Moghaddasi M, Rahnama N, Damirchi A, Rahmani-Nia F, et al. Effect of combination exercise training on metabolic syndrome parameters in postmenopausal women with breast cancer. *J Cancer Res Ther* 2012;8:238-42.
 28. Lemanne D, Cassileth B, Gubili J. The role of physical activity in cancer prevention, treatment, recovery, and survivorship. *Oncology (Williston Park)* 2013;27:580-5.
 29. Arendt J. Melatonin and human rhythms. *Chronobiol Int* 2006;23:21-37.
 30. Reiter RJ, editor. *Melatonin*. Vol. 27. London: Endocrine; 2005. p. 87-212.
 31. Reiter RJ. Melatonin: The chemical expression of darkness. *Mol Cell Endocrinol* 1991;79:C153-8.
 32. Reiter RJ. Melatonin: Medicinal chemistry and therapeutic potential. *Curr Top Med Chem* 2002;2:113-209.
 33. Blask DE. Melatonin, sleep disturbance and cancer risk. *Sleep Med Rev* 2009;13:257-64.
 34. Gilani MK. *Hefz-o-ssehhe-ye-Naseri*. (The Plan for Regenerating Iranian Traditional Medicine Heritage). Tehran: Almaei Publication; 2008. [1387].
 35. Salehi-Sourmaghi MH. *Herbs and herbal therapy*. 1st ed., Vol. 1. Tehran: World of Nutrition Publication; 2006. [1385].
 36. Mazaheri M, Yavari M, Babayan M, Hajiheidari MR, Borhani M, Sharifi AR, et al. Attitude to food and nutrition in Iranian medicine school. *Iran Islam Tradit Med J* 2011;4:329-37. [1390].
 37. Ito N, Hasegawa R, Sano M, Tamano S, Esumi H, Takayama S, et al. A new colon and mammary carcinogen in cooked food, 2-amino-1-methyl-6-phenylimidazo[4,5-b] pyridine (PhIP). *Carcinogenesis* 1991;12:1503-6.
 38. Shirai T, Sano M, Tamano S, Takahashi S, Hirose M, Futakuchi M, et al. The prostate: A target for carcinogenicity of 2-amino-1-methyl-6-phenylimidazo[4,5-b] pyridine (PhIP) derived from cooked foods. *Cancer Res* 1997;57:195-8.
 39. Yavari P, Hislop TG, Bajdik C, Sadjadi A, Nouraei M, Babai M, et al. Comparison of cancer incidence in Iran and Iranian immigrants to British Columbia, Canada. *Asian Pac J Cancer Prev* 2006;7:86-90.
 40. Sugimura T, Wakabayashi K, Nakagama H, Nagao M. Heterocyclic amines: Mutagens/carcinogens produced during cooking of meat and fish. *Cancer Sci* 2004;95:290-9.
 41. Shemerovskii KA. Constipation – A risk factor for colorectal cancer. *Klin Med (Mosk)* 2005;83:60-4.
 42. Tayyem RF, Shehadeh IN, Abumweis SS, Bawadi HA, Hammad SS, Bani-Hani KE, et al. Physical inactivity, water intake and constipation as risk factors for colorectal cancer among adults in Jordan. *Asian Pac J Cancer Prev* 2013;14:5207-12.
 43. Cohen S, Rabin BS. Psychologic stress, immunity, and cancer. *J Natl Cancer Inst* 1998;90:3-4.
 44. Moreno-Smith M, Lutgendorf SK, Sood AK. Impact of stress on cancer metastasis. *Future Oncol* 2010;6:1863-81.
 45. Sloan EK, Priceman SJ, Cox BF, Yu S, Pimentel MA, Tangkanangkul V, et al. The sympathetic nervous system induces a metastatic switch in primary breast cancer. *Cancer Res* 2010;70:7042-52.
 46. Lutgendorf SK, DeGeest K, Dahmouch L, Farley D, Penedo F, Bender D, et al. Social isolation is associated with elevated tumor norepinephrine in ovarian carcinoma patients. *Brain Behav Immun* 2011;25:250-5.

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