

Research Review about the Relationship between the Residential Environment and the Health of People

Ming Xu¹, Yong Ge Wang², and Ting Liu³

1. Harbin Center of Disease Control in China, E-mail: xumingoo@163.com
2. Harbin Center of Disease Control in China, E-mail: wangYongge0451@163.com
3. Harbin Center of Disease Control in China, E-mail: aLLen2000123@sina.com

Abstract:

In the current situation, along with the development of society and economy, people's living level improve gradually and people are paying more and more attention to their physical health. In people's health care, environmental health can not be neglected. Further more, the relationship between environment and health can not be neglected, either. Environment can not be separated from health. Only when we actually understand the relationship between the relationship between the residential environment and the health of people, can we understand the methods of keeping healthy. In this paper, the relationship between the relationship between the residential environment and the health of people is discussed.

Keywords: Resident; Residential Environment; Health; Relationship; Research Review

Introduction

Man is the modifier and accommodator of the environment and man is an important part of the environment. The relationship between the residential environment and man is consolidated and dialectical. If the environment is suitable for the survival of man, then it is helpful to the health of the human body, and is helpful to prevent disease and prolong man's life. On the contrary, If the environment is not suitable for the survival of man, then it does harm to the health of the human body, or even result in death. Man should strive for good opportunities and avoid bad ones in order to keep healthy. Also, in order to enjoy a peaceful life man must conform to the operating law of the natural environment and generate a kind of dynamic balance with the environment. Therefore, if people want to preserve their health, they can not neglect the relationship between the residential environment and the health of people, and they should not separate the residential environment from the health of people. Only when people actually understand the relationship between the relationship between the residential environment and the health of people, can people understand the methods of keeping healthy.

Organization of the Text

1. The connotation of environmental health

The main connotation of environmental health refers to the methods of keeping healthy from the aspects of the natural environment and the social environment around people. For example, fresh air, favorable water quality, beautiful natural environment, comfortable residence, harmonious community, et al, and they are the objects of environmental health.

2. The classification of people's residential environment

People's residential environment can be divided into two parts.

In the first place, according to the formation of environment, it can be divided into natural environment and artificial environment. Natural environment refers to the natural existing objects on the earth, such as air, water, rocks, soil, animals, plants and microorganism and so on. Artificial environment refers to the environment generated from the transformation of nature and we humans play an important role in the generation of it. For example, city and country both belong to artificial environment, which are not only created by human, but also serve mankind. Artificial environment is the material foundation that in people's everyday life.

Secondly, according to the nature of environment, it can be divided into chemical environment, physical environment, biotic environment and social environment. Chemical environment refers to the organic and inorganic chemical compositions in water, air and soil. There are two kinds of the chemical compositions. A kind of them is necessary for human body and is helpful to human health, such as calcium, iron, et al. The other kind of chemical compositions is chemical pollutant, such as sulfur dioxide, smoke dust, heavy metal, et al, which is harmful to human health. Physical environment refers to climate, noise and electromagnetic radiation, et al. Biotic environment refers to bacteria, virus and microorganism. A part of biotic environment is beneficial to human health, while another part of it is harmful to human health. Social environment refers to the environment that is formed artificially, including population, custom, diet, law, regime and residential environment, et al.

3. The relationship between the residential environment and the health of people

3.1 Natural environment and health

3.1.1 Outdoor environment and health

Outdoor environment has great impact on people's health, such as house refuse, polluted water, excrement and other garbage. According to Traditional Chinese Medicine health experts, humans are generated from natural environment and are a part of it. Also, the regular pattern of humans is in harmony with the operating law of nature. The health of people should conform to weather and climate and the operating law of nature. In this way, humans can live in harmony with environment. At the same time, humans can not cater to nature passively, and humans should play their own initiative. Therefore, humans should transform nature actively. In this process, favorable natural environment is preserved and adverse environment is transformed, and the sustainable development of mankind and natural environment can be realized.

However, the natural environment which is appropriate for health care need to satisfy the following conditions: adequate source of water, abundant sunshine, fresh air, quiet and secluded place. Grateful and harmonious natural environment can not only give people a pleasant view, but also is beneficial to human health. Sometimes, natural environment is not fit for human health, such as disgusting climate, lack of some kinds of trace elements, the environment which existing some harmful radioactive material, frequent occurrence of natural calamities, et al. The harmful environment caused by mankind includes water pollution and air pollution. Facts also indicate that not all kinds of natural environment can satisfy the human health conditions. There really exists lack of headwaters, air pollution and other environmental problems. However, we humans can not accept the reality passively. In order to keep healthy, people should avoid the natural environment that does harm to human health. Also, we can transform the environment actively and make it satisfy our own health care requirement.

3.1.2 Indoor environment and health

Indoor environmental pollution contains cigarettes, lampblack, formaldehyde and other decorative material volatile matter. In the life of human, people spend more than 90% time in indoor environment. Therefore, the quality of indoor environment has great influence on human health. According to WHO, 65% diseases are related to the air quality of indoor environment.

3.1.2.1 Building structure

The housing area should be capacious and moderate. Also, it should correspond to the requirement of sanitation. The normal area of housing should be about 25 square meters. In cities, the average area of housing should be about 6~9 square meters, while in countries, the average area of housing should be about 8~12 square meters. The net height of housing should be 2.6~2.8 meters on average, which can be higher in hot areas and lower in cold areas. The depth of housing refers to the distance from the internal surface of the outer wall of windows to the internal surface of the opposite wall. The depth of housing should not exceed 2~2.5 times of the distance from ground to the window edge.

3.1.2.2 Microclimate in housing

Microclimate in housing refers to the climate in housing formed by the protective effect of building envelope, which is different from the climate of outdoors. In order to make sure the microclimate in housing favorable, the temperature, humidity, airflow, heat radiation should all be appropriate. Table 1 shows the microclimate in housing in summer and winter.

Table 1. the microclimate in housing in summer and winter

Seasons	Temperature	Humidity	Airflow
Summer	21°C~26°C	30%~65%	0.2~0.5m/s
Winter	16°C~20°C	30%~45%	0.1~0.5m/s

3.1.2.3 Day lighting in housing

Appropriate day lighting in housing is beneficial to people's physical and psychological health. On the one hand, the ultraviolet rays in the sunshine have a function of sterilization and inflammation reducing, and they can increase the immunity of organism. Also, they can be used to prevent the occurrence of rickets. On the other hand, appropriate day lighting in housing is beneficial to people's psychological health and makes people feel pleasant. As a result, appropriate day lighting in housing should be guaranteed. In cold areas in the north, there should be three hours day lighting in southing housing, while there should be more day lighting in the housing of other orientations. In summer, in order to reduce room temperature, day lighting in housing should be decreased.

3.1.2.4 Adequate ventilation in the room

The verandah of residence can not only considered as balcony and sunshade, but also can produce draught very easily, which is fit for hot area. People should form the habit of making sure the verandah of residence appropriate and open windows at regular time. In this way, the dirty air in the room can be discharged to outdoors and the fresh air outside and enter into the room.

In addition, raising flowers and grass in the housing is very useful. Raising flowers and grass can not only

enrich people's leisure life and cultivate people's sentiments, but also beautify the indoor environment. This is because plants can absorb carbon dioxide and release oxygen through photosynthesis, raising flowers and grass in the housing is beneficial to people's breath. Furthermore, some kinds of plants have special functions, such as absorb dust, drive mosquito and prevent diseases, et al.

3.1.2.5 Air Conditioning

In the current situation, modern people are more and more dependent on air conditioning and can not live without it, which is a trouble thing and derive a large number of problems.

3.2 Social environment and health

3.2.1 Social legislation and health

Social legislation is one of the factors that have great influence on human health among all of the social factors. For example, in the aspect of environmental law, there are public hazard countermeasure law and consumer protection law in Japan; there is environment policy law in America; there is federation pollution control law in Germany. Through the effect of laws and new science and technology, environmental pollution and disruption has been controlled and prevented to some extent.

In addition, the laws about controlling the size of population and increase the quality of population are very common. In 1948, Japanese congress formulated eugenic protection law, which is aimed at controlling the size of population and increase the quality of population from the viewpoint of eugenics and prevent the birth of low-grade descendant, and protect the life and health of mother. Since the law was put into practice, the physical quality of the whole race increases greatly, also, the height and figure of modern young people have been changed. The physical conditions of Japanese population before and after the implementation of the eugenic protection law in Japan are as follows (See Table 2).

Table 2. The physical conditions of Japanese population before and after the implementation of the eugenic protection law in Japan

Time	1947	2011
Human fertility	34.3%	10.7%
Human mortality	14.7%	4.2%
Infant mortality	60.1%	5.3%

3.2.2 Social economy and health

The rapid development of social economy promote the increase of people's health standard, the increase of people's health standard can promote the development of social economy, so they are supplement each other. The reason why social economy can have great influence on human health is that the production of material goods is the foundation of the survival and development of human society. For example, in some well-developed countries, the level of productive forces is high, the science and technology is advanced, the working condition is superior, people's material and culture life is abundant, and people's nutrition status is good. Therefore, the physical conditions of people in well-developed countries are better than developing countries, and the average life expectancy is longer.

The development level of social production also determines the cultural education level of people, and it can have great influence on people's health. Generally speaking, people living in developed cultural education countries and regions have more opportunities to receive education, and the cultural level of these people are higher, also, they have good health habit and appropriate lifestyles, so that they have stronger ability of preventing diseases. Therefore, the morbidity of people living in developed cultural education countries and regions is low, and their physical condition is good. On the contrary, the morbidity of people living in developing cultural education countries and regions is high, and their physical condition is bad. For example, Norway once made a survey on 18000 patients with coronary heart disease, which found that the morbidity of low cultural people was twice of that of high cultural people. As a result, in order to prevent all kinds of diseases and make people healthy, we should increase people's cultural level, especially the health education level.

3.2.3 Social politics and health

There are various social political factors, which have all kinds of influences on people's health. However, as a whole, the influences are mainly about the guiding principle, policies, regulations, laws and medical care hygiene business. The changing of medical form and primary health care has direct influence on human health and many kinds of diseases. For example, in the Tang and Song Dynasty of China, because the rulers paid great attention to the development of pharmaceutical and healthcare fields, the scale of the medical and health institutions at that time was very large, and the organizations were very strict, and the branches were very meticulous, and the medicine level was very high, which was rarely seen in the world. The development of pharmaceutical and healthcare fields at that time have not only improved the physical condition of human, but also promoted the development of economy and culture. What's more, a large number of medicine and

pharmacology experts were brought up, and many medical science monograph were composed, which had great effect on the medical science school of thought of later dynasties and the development of medical science in Asia.

On the contrary, the European feudal rulers in the medieval ganged up with church and publicized religions and theology, while they were against medical science and other science, which caused the development of medical treatment and public health suffered very serious barriers and caused many kinds of infectious diseases prevalent in many countries in Europe, such as acute gastroenteritis, pestilence, enteric fever, et al, which caused a large number of people death.

At the same time, political factors also affect the health of people. For example, whether a country implement democratic politics or wars occur or the political situation is stable or not, et al, have great impact on human health. On the contrary, to some extent, human health can affect social politics too. The reason is that whether the people in a country have good physical conditions or not is related to whether the country is strong or not. Through the history of different countries, we can find that whether the people in a country have good physical conditions or not is directly related to whether the economy develop well and the society keep stable of the country or not.

Summary

In the current situation, serious problems about residential environment and the health of people make most countries in the world perplexed. Therefore, the research of the relationship between environment and health is very significant. It is hoped that through the research of this paper, people can become healthier.

References

- [1] Lyons, W. B., Wayne, D. M., Warwick, J. J., Doyle, G. A. (1998). The Hg geochemistry of a geothermal stream, Steamboat Creek, Nevada: natural vs. anthropogenic influences [J]. *Environmental Geology*, 34(2~3).
- [2] Drake, P. L., Rojas, M., Reh, C. M., Mueller, C. A., Jenkins, F. M. (2001). Occupational exposure to airborne mercury during gold mining operations near El Callao, Venezuela [J]. *International Archives of Occupational and Environmental Health*, 74(3).
- [3] Ikingura, J. R., Akagi, H. (2002). Lichens as a Good Bioindicator of Air Pollution by Mercury in Small-Scale Gold Mining Areas, Tanzania [J]. *Bulletin of Environmental Contamination and Toxicology*, 68(5).
- [4] Zhang, W., Neve, J., Xu, J., Vanderpas, J., Wang, Z. (2001). Selenium, iodine and fungal contamination in Yulin District (People's Republic of China) endemic for Kashin-Beck disease [J]. *International Orthopaedics*, 25(3).
- [5] Furuta, C., Li, C. M., Taneda, S., Suzuki, A. K., Kamata, K., Watanabe, G., Taya K. (2005). Immunohistological study for estrogenic activities of nitrophenols in diesel exhaust particles [J]. *Endocrine*, 27(1).
- [6] Laden, F., Hart, J. E., Eschenroeder, A., Smith, T. J., Garshick, E. (2006). Historical estimation of diesel exhaust exposure in a cohort study of U.S. railroad workers and lung cancer [J]. *Cancer Causes & Control*, 17(7).
- [7] Pacyna, E. G., Pacyna, J. M. (2002). Global Emission of Mercury from Anthropogenic Sources in 1995[J]. *Water, Air, and Soil Pollution*, 137(1~4).
- [8] Feng, X., Sommar, J., Lindqvist, O., Hong, Y. (2003). Occurrence, Emissions and Deposition of Mercury during Coal Combustion in the Province Guizhou, China[J]. *Water, Air, and Soil Pollution*, 139(1~4).

This academic article was published by The International Institute for Science, Technology and Education (IISTE). The IISTE is a pioneer in the Open Access Publishing service based in the U.S. and Europe. The aim of the institute is Accelerating Global Knowledge Sharing.

More information about the publisher can be found in the IISTE's homepage:

<http://www.iiste.org>

CALL FOR PAPERS

The IISTE is currently hosting more than 30 peer-reviewed academic journals and collaborating with academic institutions around the world. There's no deadline for submission. **Prospective authors of IISTE journals can find the submission instruction on the following page:** <http://www.iiste.org/Journals/>

The IISTE editorial team promises to review and publish all the qualified submissions in a **fast** manner. All the journals articles are available online to the readers all over the world without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Printed version of the journals is also available upon request of readers and authors.

IISTE Knowledge Sharing Partners

EBSCO, Index Copernicus, Ulrich's Periodicals Directory, JournalTOCS, PKP Open Archives Harvester, Bielefeld Academic Search Engine, Elektronische Zeitschriftenbibliothek EZB, Open J-Gate, OCLC WorldCat, Universe Digital Library, NewJour, Google Scholar

