



Tuberculosis and Vitamin D relationship -A Review

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Abstract

Introduction: Tuberculosis is still a major contributor to childhood illness and child mortality around the world; it is primarily the result of a recent infection and it mainly indicates infectious diseases in infants and preschool children. Reviewing the main characteristics of tuberculosis is one of the major issues in the epidemiological study of tuberculosis.

Method: The present study searches were conducted Google scholars, science direct pub med, ISI, Psyc INFO and Web of Science. Keywords used in this research are: tuberculosis, vitamin D and childhood. At first 100 studies were conducted on the search for various information bases Among them, studies that did not have criteria for entering the study were excluded from the study and Finally, were used the 20 studies that were more consistent with the subject of this study. In this study the relationship between vitamin D and tuberculosis is discussed.

Conclusion: UV of the sun in the main source of Vitamin D in the body; thus, the maximum amount of vitamin D and the maximum activity of the immune system is observed in summer and the least rate is observed; vitamin D deficiency has also been reported due to the low consumption of meat and fish among Asian raw ruminants, which is associated with an increase in the prevalence of tuberculosis.

Keywords: Tuberculosis, vitamin D, Review

Introduction

Tuberculosis is still a major contributor to childhood illness and child mortality around the world; it is primarily the result of a recent infection and it mainly indicates infectious diseases in infants and preschool children (1). Reviewing the main characteristics of tuberculosis is one of the major issues in the epidemiological study of tuberculosis. According to WHO 2004 reports, out of 9.8 million new cases of worldwide illness, 9.3 million people had positive smear-positive pulmonary tuberculosis (2). From every 10 people with Basil in the absence of immunosuppressive diseases, there is a possibility of progressing towards the active form of the disease in one person. The incidence rate of tuberculosis represents the status of tuberculosis in community, which is a high proportion of the spread of infection sources in a geographical area that is itself affected by

the incidence of tuberculosis in adults. Simply stated, if a child is diagnosed with tuberculosis, family members of the child and all those in close contact with him should be examined for TB in order to determine the source of the disease. Close contact with children or the infected adult is a factor in the transmission of the disease (3). On the other hand, due to the fact that the body's defense mechanism is unmet in children, the risk of developing the active form of tuberculosis is higher in them. Other factors such as nutrition, health and wellness, and cultural and social dimensions affect tuberculosis epidemiologic indicators (4). The change in these indicators for reducing this disease among children shows the control of tuberculosis in adults, and vice versa. With the effective implementation of the TB control program in Brazil, the incidence of tuberculosis in children under the age of 15 has decreased from 11.7 per 100,000 in 1993 to 7.9 in 1997.

Materials and Methods

The present study searches were conducted Google scholars, science direct pub med, ISI, PsycINFO and Web of Science. Keywords used in this research are: tuberculosis, vitamin D and childhood. At first 100 studies were conducted on the search for various information bases Among them, studies that did not have criteria for entering the study were excluded from the study and Finally, were used the 20 studies that were more consistent with the subject of this study. In this study the relationship between vitamin D and tuberculosis is discussed.

Results

Tuberculosis is one of the most important lethal infectious diseases and one of the biggest health problems in the world. About one third of the world's population is infected with Bacillus, which in 10 years of age is transformed into tuberculosis. Thus, it is quite essential to pay more attention to this (5). Each week, 52,000 deaths occur, equivalent to about 7,000 deaths per day. In developing countries of Asia, Africa, the Middle East, and Latin America, which are used to diagnose and treat conditions and limited facilities, 98% of deaths and 95% of infection cases occur (6). The Iranian Ministry of Health's disease management center has reported the incidence rate of this disease to be 14 in 100,000 people and 28 in 1,000,000. The disease is caused by Bacillus or Mycobacterium tuberculosis (7). The bacteria usually occur in children, and then the immune deficiency of the cell causes it to become active. Tuberculosis involves the lungs and affects other systems of the body, as well (8). The main symptoms of this disease include chronic cough associated with blisters, fever, night sweats and weight loss. Cells can be tested with chest radiographs skin, tuberculin, and other laboratory tests. Treatment is required for at least 6 to 12 months to prevent it from getting serious and treatment-resistant strains require at least two drugs (9). The most important drugs used are rifampin, isoniazid, pyrazinamide and ethambutol. Due to the resistance to antibiotics and the progression of these issues, it is quite important to prevent his infectious disease (10). The most common way to fight this disease is to identify and treat people with the disease. Preventing this disease with BCG vaccine, the first turn of which is injected at the time of birth (11).

In 2006, Kim et al stated that tuberculosis is a contagious disease, a type of disease known as bovine

tuberculosis in the human gene. According to Long et al, the main source of TB is the inhalation of infected dust; however, cow's tuberculosis can also infect humans through dairy and its transmission through proven insects (12). The effects of seasonal changes have been confirmed in the development of tuberculosis. Before the invention of antibiotics, tuberculosis incurred high mortality at the end of winter and the beginning of spring (13). Some researchers in the newer papers reported a similar pattern of TB seasonality, while others stated that summer is the most probable time for the incidence of tuberculosis. The seasonal distribution of tuberculosis in the fall and winter is justified by the theory that the transmission of tuberculosis infection is associated with an increase in overcrowding time, poor ventilation, and an increase in the incidence of cough due to other respiratory infections in cold seasons (14). The seasonal nature of tuberculosis is unclear. Some believe that the transmission of tuberculosis infection is associated with an increase in time of congestion, poor ventilation and an increase in the cough pattern caused by other respiratory infections in the winter, which is true only for primary tuberculosis. Another cause of tuberculosis in winter is the increased incidence of viral diseases such as the common cold which reduce the level of the immunity of the body and re-activate the infection of tuberculosis micro-bacterium (15). UV of the sun in the main source of Vitamin D in the body; thus, the maximum amount of vitamin D and the maximum activity of the immune system is observed in summer and the least rate is observed; vitamin D deficiency has also been reported due to the low consumption of meat and fish among Asian raw ruminants, which is associated with an increase in the prevalence of tuberculosis.

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	Website: www.ijarbs.com
Quick Response Code	Subject: Medical Sciences
DOI: 10.22192/ijarbs.2018.05.01.012	

How to cite this article:

Magid Reza Akbarizadeh. (2018). Tuberculosis and Vitamin D relationship -A Review. *Int. J. Adv. Res. Biol. Sci.* 5(1): 67-69.

DOI: <http://dx.doi.org/10.22192/ijarbs.2018.05.01.012>