

## **VITAMIN D AND COLORECTAL CANCER PREVENTION: A LITERATURE REVIEW**

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**BACKGROUND:** Vitamin D is a steroid hormone whose main function is the regulation of bone metabolism. However, in recent years new actions have been discovered, such as cell cycle regulation, differentiation, apoptosis and angiogenesis, promoting or inhibiting the proliferation of normal and neoplastic cells. Epidemiological studies have shown increased risk for cancer in regions where serum vitamin D levels are lower, moreover, presents direct influence on the rectal mucosa, through its receptor. Dietary factors have been implicated as possible risk factors for the development of colorectal cancer, as a diet with high consumption of red meat and/or processed meats, fat, simple carbohydrates and alcohol, while a healthy diet, rich in fiber, such as fruits, vegetables and whole grains it is a preventive factor for the development of colorectal cancer.

**HYPOTHESIS:** High levels of vitamin D have preventive effects against colorectal cancer.

**METHODS:** Survey data for this article were collected from online databases such as Lilacs, SciELO and PubMed, in a total of 31 studies, from 1937 to 2015, in English and Portuguese languages. To select the articles, the inclusion criteria were: consumption or supplementation of vitamin D and factor of colorectal cancer prevention.

**RESULTS:** On the analyzed data about their preventive effect of colorectal cancer, it was observed that higher serum levels have increased protection to the development of colorectal cancer and/or decrease in mortality, compared to lower levels. Defining the minimum required dose of vitamin D supplementation is essential. Among all analyzed studies three of them were able to set this dose and statistically prove its beneficial effect, but there is no consensus for their prescription. To be able to corroborate the beneficial actions of vitamin D, futures clinical trials are needed, able to derail any questions and quantify the minimum necessary dose supplementation, considering that cancer is a complex disease and currently one of the main problems global public health.