

# Effect of Vitamin D in Children Suffering from Tuberculosis

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**Abstract**—Tuberculosis is a global health problem and according to the various studies and reports it was found that more than 2million children have suffered from this disease all around the world. Although antibiotics in the treatment of Tb have decreased death rate, the possibility of drug resistance in these patients has been increased due to prescribing errors and the long period of treatment. Low vitamin D levels were also associated with a 5 - folds increased risk for the progression to tuberculosis. Vitamin D is considered as a known human immune system modulator so it can enhance cellular immune system. Vitamin D modulates monocyte- macrophage activity in the body and plays a role in human innate immunity to certain infections agents. This role maybe important in the body's defense against tuberculosis, in which attack of macrophages is a key step in pathogenesis. Vitamin D acts by binding to nuclei receptors on target cells. However, both low levels of the vitamin and abnormalities in receptor structure and function may result in impairments in host immunity to the tubercle bacillus. Hence, vitamin D plays role through its receptor on nuclei of macrophages, so plasma concentration of vitamin D on one hand and the role of these receptors on the other are the factor that influence on the person's ability to respond against Tb.

## CONCLUSION

Low serum vitamin D levels are associated with active Tuberculosis. Therefore, children infected with tuberculosis have lower levels of vitamin D levels as compared to controlled group of the same age group.