

# A Review on Role of Siddha Medicine in Improving CD4 Cells in HIV Patients

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## ABSTRACT

Siddha medicine, one of the most ancient traditional systems of medicine originating from South India, emphasizes holistic health, immunity enhancement, and disease prevention. In the context of Human Immunodeficiency Virus (HIV) infection, depletion of CD4 T-lymphocytes remains a major concern as it leads to progressive immunodeficiency. While modern antiretroviral therapy (ART) effectively suppresses viral replication, immune restoration may be slow and incomplete in some patients. Siddha medicine offers supportive and complementary approaches aimed at improving immune strength, enhancing quality of life, and supporting CD4 cell regeneration. This review elaborates on the theoretical concepts of Siddha medicine, the role of immunity (Uyir Thathukkal and Udalthathukkal), and the importance of specific Siddha formulations such as Nilavembu Kudineer, Thiripala Chooranam, and Aya Birungaraja Karpam in maintaining and improving CD4 cell counts in HIV patients.

**Key Words:** CD4 cells, Nilavembu Kudineer, Thiripala Chooranam, Aya Birungaraja Karpam, HIV patients.

## INTRODUCTION

HIV infection continues to be a global health challenge, characterized by progressive destruction of CD4 T-lymphocytes, leading to immunosuppression and opportunistic infections. CD4 cells play a vital role in coordinating immune responses, and their depletion is directly associated with disease progression. While ART has transformed HIV into a manageable chronic disease, long-term immune recovery and management of drug-related adverse effects remain challenging. Traditional systems of medicine, including Siddha, have gained attention for their immunomodulatory and rejuvenative properties. Siddha medicine views disease as an imbalance of fundamental life forces and aims to restore harmony through herbal, mineral, and lifestyle-based interventions. In Siddha philosophy, immunity is not viewed as a single entity but as a balanced state of the three Uyir Thathukkal-Vatham, Pitham, and Kabham. Kabham is primarily responsible for strength, stability, and immune defense. Proper functioning of Udalthathukkal such as Saaram (plasma), Cheneer (blood), and Oon (muscle tissue) is essential for sustaining immune competence. Siddha medicine emphasizes that depletion of immunity occurs due to improper diet, lifestyle, mental stress, and chronic infections. HIV infection is considered a condition of severe Kabha depletion, leading to progressive weakness and vulnerability.

CD4 T-lymphocytes are crucial components of the adaptive immune system. They assist in activating other immune cells, including cytotoxic T cells and B cells. In HIV infection, the virus specifically targets CD4 cells, resulting in their gradual depletion. Lower CD4 counts increase susceptibility to opportunistic infections such as tuberculosis, candidiasis, and pneumocystis pneumonia. Restoration and maintenance of CD4 cell levels are therefore key objectives in HIV management. Siddha medicine approaches this objective by enhancing overall immune resilience rather than targeting the virus alone.

## Aim & Objective

The aim of this review is to evaluate the role of Siddha medicine in enhancing immune function, particularly in increasing CD4 cell count, and improving the overall health status of immunocompromised individuals. This study seeks to correlate the Siddha concept of immunity with modern immunology, focusing on the significance of CD4<sup>+</sup> T lymphocytes in disease resistance. It also aims to identify Siddha herbs and formulations with immunomodulatory properties that may support CD4 cell recovery and to assess their supportive role in improving the quality of life among HIV/AIDS patients. Furthermore, the review intends to analyse the benefits of integrating Siddha medicine with Antiretroviral Therapy (ART) for immune restoration, examine available clinical observations and research findings related to CD4 count improvement, and highlight the importance of dietary regulations (Pathiyam) and lifestyle modifications in strengthening immunity according to Siddha principles.

## REVIEW

Siddha medicine does not claim to cure HIV but plays a supportive role alongside modern ART. Its primary goals include improving immunity, reducing frequency of infections, minimizing drug-induced toxicity, and enhancing physical and mental well-being. Siddha formulations are designed to act as immunomodulators, antioxidants, adaptogens, and rejuvenators. By strengthening the host immune response, Siddha medicine indirectly supports CD4 cell stability and regeneration.

### Nilavembu Kudineer

Nilavembu Kudineer is a classical Siddha polyherbal formulation widely used for its antipyretic, antiviral, and immunomodulatory properties. The main ingredient, Nilavembu (*Andrographis paniculata*), is known for enhancing immune cell activity and reducing inflammation. In HIV patients, Nilavembu kudineer used in the anti-viral therapy, to reduce the viral load, which was practised traditionally for its anti-pyretic action. It was scientifically proved for its anti-pyretic, Antipyretic, anti-inflammatory and analgesic properties and also used in the treatment of chikungunya fever which is a viral fever [1]. It helps in reducing recurrent infections, improving appetite, and supporting immune balance. Regular use under supervision may contribute to stabilization of CD4 counts by enhancing innate and adaptive immune responses. NVK controls fever in a comprehensive manner through its healing effects of temperature regulation, inflammation control and body pain relief. It acts in a way to boost immunity.[5]

### Thiripala Chooranam

Thiripala Chooranam, composed of *Terminalia chebula*, *Terminalia bellirica*, and *Phyllanthus emblica*, is a powerful antioxidant and rejuvenative formulation. It improves digestion, detoxifies the body, and enhances nutrient absorption. According to Siddha system of medicine, the structural components or the tissue components of the body are composed of seven types of materials called Udalthathus or Udalkattukal. Seven physical constituents are Saaram or Rasam, Chenneer or Raktham, Ooun or Mamisam, Kozhuppu, Enbu, Moolai or Manjai, Venner or Sukkilam. As in HIV, CD4 cells which is a type of blood cells are affected, Thiripala chooranam which is astringent in taste, which tends to be act in Chenneer or Raktham thathu.[1] In Siddha philosophy, proper digestive fire (Agni) is essential for immunity. By correcting gut health and reducing oxidative stress, Thiripala Chooranam supports immune cell regeneration and helps in maintaining CD4 cell levels.

### Aya Birungaraja Karpam

Aya Birungaraja Karpam is a Herbo-mineral Siddha preparation known for its potent rejuvenative and hematinic properties. It strengthens liver function, improves blood quality and enhances tissue regeneration. In HIV patients, this formulation Aya Birungaraja Karpam which is mentioned as promoting Thathuporul rejuvenation, karpam for healing and regeneration of living tissue in the body. It also helps to increase the immunity of the person to keep him away from diseases.[1] It is traditionally used to combat chronic fatigue, anemia, and immune depletion. By nourishing Saaram and Cheneer thathukkal, Aya Birungaraja Karpam

indirectly supports CD4 cell production and immune restoration. Aya Birungaraja karpam (ABK) is a synergistic poly herbo-metallic formulation. It consists iron, ferric oxide, Juice of lemon, Juice of birungarajam.[6]

### **Antioxidant And Immunomodulatory Effects**

Oxidative stress plays a significant role in HIV disease progression and CD4 cell apoptosis. Many Siddha herbs possess strong antioxidant properties that neutralize free radicals and protect immune cells from damage. Immunomodulatory actions help regulate immune responses, preventing excessive inflammation while promoting defence mechanisms. These effects collectively contribute to improved immune stability in HIV patients.

## **RESULT AND DISCUSSION**

Siddha medicine recognizes the close relationship between mental health and immunity. Chronic stress, anxiety, and depression negatively impact immune function and CD4 counts. Siddha therapies emphasize mental balance through lifestyle discipline, meditation, and supportive counselling. Improved mental well-being enhances neuro-immune interactions, favourably influencing CD4 cell recovery. Integrative use of Siddha medicine with ART requires careful monitoring and professional guidance. Siddha formulations may help reduce ART-related side effects such as hepatotoxicity, gastrointestinal disturbances, and fatigue. Improved treatment adherence and overall health status indirectly contribute to better immune recovery and CD4 cell improvement. Longevity and ageing with elegance are an important speciality of Siddha system. Kayakalpatham or rejuvenation therapy is the unique therapy in Siddha system of medicine which enhances the life span, promotes health, better the body lustier and improves the efficiency of the different cognitive abilities and enhances the innate health. Aya bringharaja Karpam was prescribed to the patient which is mentioned as promoting Thathuporul rejuvenation, karpam for healing and regeneration of living tissue in the body. It also helps to increase the immunity of the person to keep him away from diseases.[7]

## **CONCLUSION**

Siddha medicine offers a holistic, supportive approach in the management of HIV by focusing on immune enhancement, tissue nourishment, and mental well-being. Through classical formulations such as Nilavembu Kudineer, Thiripala Chooranam, and Aya Birungaraja Karpam, Siddha medicine may contribute to stabilization and improvement.

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