

CONCEPT NOTE

**Effect of immunomodulatory action of iodine and natural supplements in preventing COVID-19 acquisition and preventing COVID related complications**

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**1. AN OVERVIEW OF POPULATION DYNAMICS IN EPIDEMIOLOGY OF COVID-19 IN INDIAN POPULATION**

COVID 19 can be considered primarily a disease of the lower to upper middle class affluent group of population. Residents of slums, transient footpath dwellers who survive on a measly diet of rice and common salt are less affected. In contrary, the affluent population with their daily quota of bread, pastries, aerated drinks, in spite of better sanitation and hygiene succumb to the disease. Hence the provision of dietary iodine must be taken seriously and any form of dietary iodine depletion by agents like potassium bromide exerts a negative immunomodulatory effect causing easy COVID acquisition and COVID related complications.

**2. ASSOCIATED COMORBIDITIES IN THE DISEASE PATHOGENESIS OF COVID-19**

It has been observed that hypertensive; diabetic patients having salt restriction in their diet are more prone to develop COVID 19 infection and relation complications. Hypothyroid patients who are poorly controlled by thyroxine supplementation and remain hypothyroid of subclinically hypothyroid are in more danger of acquiring infection. Well controlled hypothyroids with levothyroxine have less COVID19 incidence and related complications.

Patients of SLE and Rheumatoid arthritis taking long term regime of HCQs have less incidence of COVID 19. Patients having psychiatric disorders like OCD or bipolar deactivity who overprescribe or underprescribe self medications are more prone to COVID related complications. Same has also been observed in children of autism spectrum disorder.

**3. ENHANCING LOCAL AND SYSTEMIC IMMUNITY IN THE FIGHT AGAINST COVID-19**

It has been observed that a simple prescription of Povidone Iodine gargle solution once or twice a day in patients of COVID 19 have brought about significant reduction in the duration of hospital stay with faster RT-PCR negativity for SARS-CoV2. The effect can be attributed to the immunomodulatory effect of iodine against the virus. Prescription of certain homeopathic

medicines like **Natrum Muriaticum** and **Iodinum** which is prescribed for routine treatment of musculoskeletal ailments have shown to quickly alleviate febrile episodes and progression to Severe acute respiratory illness in patients of suspected COVID 19 infection. Another attribute towards enhancing cell mediated immunity and regulating cytokine, interferon and interleukin milieu of the body has been shown by a homeopathic medicine *Tinospora* which has shown to decrease intensity of influenza like illness in suspected COVID 19 infection.

#### **4. ADDRESSING ROLE OF FIBRINOLYSIS IN THE DISEASE PATHOGENESIS OF COVID-19**

It has been shown in the post mortem descriptions of patients succumbing to COVID 19 that lungs destroyed by COVID 19 have fibrin clots and that use of medications like low molecular weight heparin or unfractionated heparin have a significant role in halting the progress of SARI into full blown ARDS in COVID 19. Similar effect of preventing fibrin plaque formation without risk of bleeding diatheses has been seen with homeopathic medication *Arnica Montana* which has shown to relieve respiratory symptoms and also alleviate the aches and pains in the prodromal phase of COVID 19 infection.

#### **5. PROMPT IDENTIFICATION OF ATYPICAL CLINICAL MANIFESTATIONS OF COVID-19 IN BACKGROUND OF INAPPARENT IODINE DEFICIENCY IN PATIENTS**

Not all cases of COVID 19 present with a typical history of cough, shortness of breath and fever. In background of hypothyroidism, malnutrition, obesity or systemic malignancy and all other conditions causing iodine deficiency, we may get atypical presentations. Severe myalgia with transient limping, hematuria, epilepsy, brief psychotic, delirious and amnesic episodes, diarrhea and vomiting are just a few atypical presentations to name. Prompt identification and testing of such patients, protective measures undertaken by family members and attending staff is the need of the hour. It has been seen that a strong clinical suspicion and prescription of homeopathic or allopathic medicine with iodine as the key molecule have prevented atypical COVID manifestations to progress into complicated respiratory illnesses requiring invasive ventilatory support.

COVID 19 has taken the world by storm and as the number of cases rise every day we are still in a state of dismay where no vaccine has been discovered and no cure has been stamped to be fully effective against the virus. However based on the above observations we can say that preventing the infection by boosting local immunity can be monumental in checking the spread and mortality related to COVID 19. Using immunomodulatory effects of a simple molecule like iodine is an inexpensive yet effective way with which we can plan to fight this mighty pandemic.

*Note: Discussions are invited on this Concept Note which may be sent to the Corresponding Author at [drpmallik80@gmail.com](mailto:drpmallik80@gmail.com)*