



Community Prevention and Further Research Areas to Explore in COVID 19 Positive Patients

Ganesh Shanmugasundaram A*

Department of Community Medicine Associate Professor, Zoram Medical College, India

***Corresponding author:** Ganesh Shanmugasundaram Anusuya, Department of Community Medicine, Associate Professor, Zoram Medical College, India, Tel: + 91 7401570218; Email: drgany2007@rediffmail.com

Opinion

Volume 4 Issue 1

Received Date: April 21, 2020

Published Date: May 08, 2020

DOI: 10.23880/vij-16000237

Opinion

Amidst the growing corona virus pandemic which this has already affected nearly 2 million people around the globe, of which nearly 134615 people have lost their lives [1]. As on date we still do not have a very effective drug of choice to cure the corona virus. So it is high time to think about effective community prevention activities which can be introduced into the community in a larger scale. In this article we will be enlisting some of the activities which can be recommended to the community or to asymptomatic COVID 19 patients apart from social distancing, hand wash and wearing masks which has already been followed or advised to the community by world health organisation.

Salt Water Gargle Campaign among COVID 19 Positives

As far as the knowledge we have this novel corona virus sits first in the nasal mucosa or in oral mucosa and then after few days depending upon the immunity or due to certain other unknown factors it goes down to lungs to cause pneumonia or hypoxia in few individuals. So we can advise to do warm salt water gargle for the entire community or only to patients with fever and sore throat, so it can prevent the virus from entering into the lungs even if it has entered into throat. Patients can be advised to do salt water gargle at least two times in a day. Salt water gargle is a very effective first line home remedy treatment in India for sore throat. Salt water may not have antiviral properties, but definitely it will be helpful in clearing some of the virus when we spit the water after gargle [2].

A nested case control study done by Emamian et al among Haji pilgrims showed that salt water gargling was effective in preventing respiratory tract infections [3]. Another study

done by Rupesh S, et al. [4] also showed salt water was effective in reducing salivary levels of streptococcus mutants [4]. Further studies are needed to be done in this area to look into antiviral properties of salt water gargling. A randomised controlled trial needed to be done in patients with symptoms of sore throat and to look at the efficacy of salt water gargle in preventing those patients from landing into respiratory complications.

Steam Inhalation

COVID 19 positive patients in the initial phase with fever and sore throat can be advised to do regular steam inhalation at least 2 times in a day. Not recommended in patients with respiratory problems or patients who have already developed breathing difficulties. Advise them to do with very minimal quantities of neem leaves. Patient allergic to those substances should be avoided.

A study done by Tiwari V, et al. [5] showed that the extract from neem bark (NBE) significantly blocked Herpes Simplex Virus (HSV-1) entry into cells at concentrations ranging from 50 to 100 µg/ml. The blocking activity of NBE was observed when the extract was pre-incubated with the virus but not with the target cells suggesting a direct anti-HSV-1 property of the neem bark. Further, virions treated with NBE failed to bind the cells which implicate a role of NBE as an attachment step blocker. Cells treated with NBE also inhibited HSV-1 glycoprotein mediated cell to cell fusion and polykaryocytes formation suggesting an additional role of NBE at the viral fusion step [5]. So another area of research is to look up whether Neem Bark Extract or steam inhalation done with neem bark extract or neem leaves is useful in preventing the COVID 19 patients from landing into respiratory complications.

Preventing Respiratory Complications: Hit Hard and Hit Early

The problem with corona virus is developing pneumonia or respiratory complications. But still there is a debate going on about the development of pneumonia or whether it is causing cytokine storm like illness or high altitude like illness. In my opinion i feel the drug Augmentin 625 mg (Combination of Amoxicillin and clavulanic acid) twice daily in adult patients with mild to moderate fever or in patients with sore throat to be tried to look into whether it prevents them from developing pneumonia or respiratory problems. Other drugs that can be used are T. Azithromycin. Both these drugs need to be studied further in COVID 19 patients.

Do not wait for the patient to develop pneumonia or respiratory complications; just initiate them with antibiotics like Augmentin 625 mg twice daily or with Azithromycin 500 mg once daily after diagnosed with COVID 19 immediately. Also advice doses of vitamin C, Zinc with B complex tablets along with Augmentin or Azithromycin in initial days itself.

Even if initiating with Hydroxychloroquine or Lopinavir /Ritonavir or Remdesivir or any antibiotics it is better to start them on day 3 or day 4 of fever and not later than that. So the initiation of these therapies early on day 3 or day 4 after fever needs to be studied further than with late therapy. So whatever the treatment plan may be, we strongly recommend to hit hard and hit early approach. By but hitting hard and hitting early we may prevent the respiratory complications. But the effectiveness of all the above mentioned drugs needs to be studied further in clinical trials.

Regarding Admission

Never admit any patient with fever or sore throat or with mild body pain or with mild symptoms to hospitals. Because hospitals can be loaded with virus particles in the atmosphere at this peak time of the pandemic. So anyone with fever and mild symptoms and confirmed case just initiate them with the recommended drugs and advise them strict self-isolation and advise them to return back only if they develops breathing difficulty.

Because more patients with just cough and mild symptoms are just visiting the hospitals and are getting exposed to more viral loads. You can provide a separate help line number for patients with mild and moderate symptoms, so patients can call and then health care staffs can visit their house and take the throat and nasal swab from their house. The drugs can be distributed to the asymptomatic patients in their house itself. In this way we are reducing the viral load in the environment and also reducing the exposure of health care workers to increased viral load. So patients with mild

to moderate symptoms to be advised to stay back in home and initiate them immediately with recommended drugs. A separate help line number can be given for patients with severe symptoms with respiratory breathing difficulties. Only patients with severe respiratory problems should alone be admitted in hospitals.

Regarding Declaration of Results

In this worldwide Pandemic and more deaths people around the globe are more feared and in panic mode. So my doubts and thoughts are, is it possible to do a randomised clinical trial study in asymptomatic and mildly symptomatic confirmed cases regarding declaring their positive result status a bit late.

What is impact of declaring the result status to the individuals and how they progress? I feel the moment an asymptomatic individual comes to know that he is COVID 19 positive; that he might go into a depressive mind set and it can further weakens his immune system. So whether this can lead on to worsening their immune system and further letting them prone to develop other complications. At the same time i can understand it is the right of an individual to know his test results.

So this is a very tricky research question to be answered and also is not sure whether it is ethically correct. So a better way to do this study is to isolate the asymptomatic and mildly symptomatic positive cases in strict quarantine or in isolation wards along with basic available treatment. Just tell them the results are negative as of now but you need a repeat testing after one week and keep them under strict observation. In one arm declare the results immediately if they are positive and in other arm declare the results as negative and tell them the test needs to be repeated after one week. Then we can look at the prognosis of those patients in those two arms. But this kind of study involves lot of ethical issues. But the main idea is to find out what is the difference between declaring the results immediately versus delayed declaration of the results and how it affects the prognosis of the COVID 19 patients.

Whether Cd4 Count Testing is Needed in COVID 19 Patients

The French virologist and Nobel laureate LUC Montaigner has claimed that the virus that led to the global pandemic, is "man-made" as it's the result of an attempt to manufacture a vaccine against the AIDS virus in a Chinese laboratory. He also said that there is presence of elements of HIV and germ of malaria in the genome of coronavirus [6]. We also hear the news that nearly 141 cases in South Korea who recovered from corona virus has tested positive again. So it is time to

think are we dealing with a chronic infection or relapse or re infection. So it is high time to check the immune status of these individuals by doing a CD4 count on corona positive patients initially and a follow up after one month or two months depending upon the relapse.

Food Habits during Pandemic to Increase Immunity

Advise the community to take ginger tea once in the morning and once in the evening. Ginger has been proven to improve the immunity and also it has anti-inflammatory and anti-oxidative properties [7, 8]. In the night before going to bed, advice to take warm milk with very little amount of turmeric.

Also advise to use turmeric powder while cooking. Again turmeric contains Curcumin (diferuloylmethane) is an orange-yellow component of turmeric (*Curcuma longa*), a spice often found in curry powder. It is known for its anti-inflammatory effects, immunomodulatory agent that can modulate the activation of T cells, B cells, macrophages, neutrophils, natural killer cells, and dendritic cells. Curcumin can also down regulate the expression of various proinflammatory cytokines including TNF, IL-1, IL-2, IL-6, IL-8, IL-12, and chemokines. Curcumin at low doses can also enhance antibody responses [9]. Further studies are needed to look into the doses of turmeric to improve the immunity.

Advise the community to increase the intake of onions as it has anti-inflammatory properties [10]. Lime juice can be taken in mid-afternoon. Minimum three eggs per day- One in each meal if possible. Plenty of green leafy vegetables are also advised. Any food preparation is to be advised to cook with ginger and garlic mix. Basically we recommend foods with immune boosting properties and rich in vitamin C, Zinc, anti-inflammatory substances, vitamin D, B complex and proteins. The community should be advised not to drink alcohol and smoke cigarettes strictly during this pandemic.

Further Research Areas in Covid 19 Patients

- The effect of salt water gargle among asymptomatic and mildly symptomatic COVID 19 patients
- The effect of Neem Bark Extract or Neem leaves extract on corona Virus
- Randomised controlled trial on effects of steam inhalation and corona virus

- Early declaration of results versus late declaration of results and its impact on prognosis of COVID 19 positive patients
- Randomised controlled trials on Augmentin and Azithromycin and its effect on COVID 19.
- CD4 count evaluation of COVID 19 positive patients.

References

1. (2020) COVID-19 coronavirus pandemic. Worldometer.
2. (2019) Does A Salt Water Gargle Do Anything For A Sore Throat Or Nah? Womens health.
3. Emamian MH, Hassani AM, Fateh M (2013) Respiratory Tract Infections and its Preventive Measures among Hajj Pilgrims, 2010: A Nested Case Control Study. *Int J Prev Med* 4(9): 1030-1035.
4. Rupesh S, Winnier JJ, Nayak UA, Rao AP, Reddy NV (2010) Comparative evaluation of the effects of an alum-containing mouthrinse and a saturated saline rinse on the salivary levels of *Streptococcus mutans*. *J Indian Soc Pedod Prev Dent* 28(3): 138-144.
5. Tiwari V, Darmani NA, Yue BY, Shukla D (2010) In vitro antiviral activity of neem (*Azardirachta indica* L.) bark extract against herpes simplex virus type-1 infection. *Phytother Res* 24(8): 1132-1140.
6. Surendra Singh (2020) Coronavirus man-made in Wuhan lab: Nobel laureate. *The Times of India*.
7. Sangami Cha (2020) Why are some South Koreans who recovered from the coronavirus testing positive again? *World News*.
8. Mashhadi NS, Ghiasvand R, Askari G, Hariri M, Darvishi L, et al. (2013) Anti-oxidative and anti-inflammatory effects of ginger in health and physical activity: review of current evidence. *Int J Prev Med* 4(1): 36-42.
9. Jagetia GC, Aggarwal BB (2007) "Spicing up" of the immune system by curcumin. *J Clin Immunol* 27(1): 19-35.
10. Dorsch W, Schneider E, Bayer T, Breu W, Wagner H (1990) Anti-inflammatory effects of onions: inhibition of chemotaxis of human polymorphonuclear leukocytes by thiosulfinates and cepaenes. *Int Arch Allergy Appl Immunol* 92(1): 39-42.

