

Review article

Preventive Measures and Their Effects on Human Health to Fight Against SARS-Covid-19.

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ABSTRACT

SARS Covid-19 is a pandemic, hijack the economy of the world, spread fear among the people, although it was not so serious as it was taken and as it was explained by media and analyst. This wrong explanation leads the people towards highly sophisticated preventive measure to remain safe from the effect of Covid-19. But due to excessive stress of media the people exaggerated in taking preventive measures, which also started to show their negative impact, like constant use of mask can cause respiratory problems particularly during working and exercise, excessive washing of hand can weakens the immune system, social distancing also causes stress which eventually leads to weakens our immunity, excessive use of vitamin D resources, Organic diets are also not good for health, a balance life is only a key for a good immunity and good health, Preventive measures are necessary but their improper and excessive use can also affect the immune system very badly, which leads to easy attack of Covid-19 or any other disease. This review showed the importance of preventive measures, their proper use and negative impact of improper uses.

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INTRODUCTION

The world is suffering from COVID-19 pandemic. It was started from Wuhan, the industrial and economic zone of China and within short interval of time the pandemic has spread in the whole world. Research has been conducted to overcome this pandemic but no

fruitful results have been obtained. As it's a viral infection, therefore can be treated by formulating certain vaccine against it, but regarding vaccine preparation no success has been achieved yet. Different methods are being adopted for the recovery of infected person such as use of existing drugs,

convalescent plasma therapy and in acute cases patients are provided with external breathing support. Therefore, to cope with novel corona virus, existing therapeutic strategies have just a supportive role, so at this time the best weapon against this viral attack is prevention measures ^[1]. Once, if a human gets infected, not only he/she suffers from its effects but also becomes the reason of its spread to other healthy human population. To reduce the number of patients and its spread there are different preventive measures are in consideration.

Respiratory hygiene

COVID-19 has the ability to spread through respiratory droplets and by physical contact. Therefore, respiratory hygiene becomes essential preventing measure. The best way to reduce the droplet contact is wearing mask. Different kinds of masks like surgical or medical and in case of severe contaminated environment, respirators are employed. Surgical masks can be used by persons who are not performing duties in contaminated environments as they cannot prevent the entry of pathogens (bacteria and viruses). Surgical masks have different various types which depends on the filter layers such as; two, three and six layered masks, their efficiencies vary with increasing layers. Six layered masks are considered to be effective among all but it can also not prevent the entry of COVID-19 entirely. But the use of surgical mask prevents efficiently from droplet transmission from infected person ^[2]. Respiratory hygiene can be done by wearing a medical mask if you are experiencing respiratory problems or by wearing respirators in case of high exposure chances. If masks are not available sneeze and cough in to your bent elbow or on a tissue, but its proper disposal is mandatory. Further avoid hand touching to face. While the persons having respiratory problems are advised to use medical masks both at work place and at home. The appropriate use of mask and its discard is important to avoid transmission of COVID-19 virus

^[3]. Respirators are employed by health care workers as they have been provided with mechanical strength and prevent the entry of viruses to some extent. Therefore, healthcare professionals must use respirators like N95 when performing aerosol generating procedures.

Preventive Measures

Among applicable preventing strategies to suppress the spread of COVID-19, the role of masks is quite supportive. Masks can be used by both infected and healthy person. Infected person wears it to prevent transmission to un-infected persons while healthy person uses it for its own safety from infected person as symptomatic and asymptomatic persons can spread the virus. While wearing mask proper care is needed. It needs replacement upon damage, wetting or becoming filthy. Medical masks should not be touched for any sort of adjustment or should not be misplaced, if cope with such kind of situation replace the mask immediately and discard it properly. For medical workers carrying medical mask also need replacement of old mask by new one after caring for infected person. Staff working together must not share their masks for prevention purpose. The purpose of mask can be understood by comparing it with safe driving. When a person is driving safely. He is not protecting himself but also the other individuals using road. If all persons on road drive safely there will be lower chances of crash. Similarly, if everyone is wearing mask than chances of viral infection spread will be reduced ^[4].

The covid-19 can be controlled by contribution of supportive role of mask if worn by the community by minimizing the shedding of virus in saliva and droplets from individuals having mild or sub clinical COVID-19 ^[5]. When a comparative study was performed among surgical and N95 respirators, it was concluded that both work similarly in case of droplet transmission yet in aerosol generation N95 is beneficial ^[6].

Negative Impact of Preventive measures

Wearing of mask by individuals have no visible signs of infection may cause cost problems and creates difficulty in its availability. Further by wearing mask individual think that they are now far away from infection and neglects other vital preventive measures [7]. When medical masks put in to use for long time intervals some problems can be raised. Mask contamination can encounter upon filthy hand touching. Masks can be self-contaminated if not changed upon wetting. If used on frequent basis skin lesions, worse acne problems or irritant dermatitis can be encountered. People can feel uncomfortable upon its continuous use. The transfer of droplets to face and eyes can occur if goggles are not combined with mask. Difficulty can be met for persons having mental, hear and physical disability. They are hard to wear in humid and harsh environmental conditions [8]. Due to excessive use of mask problems related to its shortage will be observed. During encountered public emergencies respirators have been employed by professional to handle multiple persons suffering from same problem for large time interval. Wearing of respirators for more than four hours can creates a sense of discomfort therefore its use for long time duration must be avoided. Difficulties with respirators are observable like persons using disposable models met with issues like pressure and facial heat while those using reusable respirators encountered communication interference. N95 (cup shaped) respirators without exhalation valve provides greater intolerance compared to a respirator with a valve [9].

An important preventive measure during COVID-19 is hand hygiene. Hand hygiene can be done by frequent hygiene due to which health care workers can get skin diseases. The survey done on 526 workers dealing with infected persons about 74 % workers develop complications in skin damage due to

excessive hand hygiene practices. The persons who were performing hand washing frequently, about ten times a day get more skin damage. This can be worse as this damaged skin can become the entry place of COVID-19. Overheated water should be avoided as it can cause contact dermatitis. Therefore, proper hand sanitizer with greater content of alcohol must be use and after performing hand hygiene practice moisturizer should be applied.

Rational hand hygiene

Health care workers develop hand eczema upon performing hand hygiene practices and gloves wearing for long duration. Skin damage caused by adopting preventive measures can create a sense of discomfort among front line workers and reduce their eagerness in performing their duties.

Skin damage among healthcare workers

Reduction of skin damage among workers is necessary for effective work practices. Shortening of working shifts in highly contaminated environments can reduce the stress and also skin damage due to adopting excessive preventive measures.

Occupational skin disease among healthcare workers

Contact with contaminated surfaces and face touching is considered to be the major cause of COVID-19 spread. Hand hygiene practices are involved in approximately 24 % reduction of viral spread making hand to face contact an important indicator of disease spread.

Behavioral considerations and impact on personal protective equipment (PPE) use:

It is observed that face and nose touching is a common practice even among medical students. Therefore, to break the transmission cycle and colonization; hand hygiene is the only practice which should be adopted by health care workers.

Face touching: A frequent habit that has implications for hand hygiene

Various pathophysiological changes are faced upon frequent hand washing due to exposure to several physical and chemical agents along with water. The changes which can be encountered are keratinocytes impairment, activation of skin immune system, discharge of pro-inflammatory cytokines and some sort of hypersensitivity reactions. Patients having atopic dermatitis problems can observe adverse dermatologic effects including severe skin dryness and contact dermatitis. To prevent such eczematous changes application of appropriate moisturizer after hand washing or applying sanitizer is quite helpful.

Frequent hand washing for COVID-19 prevention can cause hand dermatitis

To reduce the spread of virus hand hygiene is useful and for this purpose hand sanitizers are preferred. The use of alcohol base hand sanitizers can kill the viruses but also responsible for different respiratory and gastrointestinal disorders.

Social distancing

Covid-19 has capability of transmission from person to person, therefore patients with visible signs were considered to be principal source of transmission, while the persons having no considerable signs can also be the cause of spread. Approximately 80 % of transmission is due to pre and asymptomatic persons. In actual the spreading chances are more for close contacts, like family members and health professional. Initially spread was more in ICUs compared to general wards. As covid-19 has the ability of survival for some time on trash cans, computer mice, floors and air for about 4 meters from infected person. Each suffering person can transmit it to further 2.2 individuals. That's why isolation is supposed to be the best solution against this epidemic. China first encountered this problem and reduction in patients was analyzed when isolation was adopted as

preventive measure [10]. Seeing recent condition environmental and engineering controls object to reduce the blowout of infection causing species and to reduce the contamination of surface materials and items. Their aims include maintenance of 1meter social distance among infected or suspected persons and health care workers Organization [11].

Different social distancing maintaining strategies are in practice like quarantining patients and their closed ones, school closure and work place distancing when applied together were fruitful in controlling spread of COVID-19. Social distancing management at work places is more important than school closure as chances of removal of patients having signs of disease at work places are difficult to withdraw than children at school [12]. The problems related to maintaining social distances are more pronounced for the persons which are suffering from some certain diseases like attention deficit hyperactivity disorder (ADHD), a neurological disorder. For such persons the application of social distancing can create unparalleled challenges for the society members as such patients in such type of condition can develop more behavioral problems. Moreover, such limitations have also generated challenges for clinical workers. They are finding difficulty in providing proper care to attendants under such restricted conditions [13].

CONCLUSION

There is no any specific vaccine for Covid-19. However, there is only preventive measures, but due to improper application of preventive measures they can cause disadvantages instead of advantage. Excessive use of sanitizers masks vitamins may be harmful for our immune system and can cause other problems, so people should be awarded about the proper use of preventive measures, however they can remain safe from this pandemic and also from other health problems, excessive use of masks and specially

during exercise or working can cause an oxygen deficiency in blood cells and can also cause stress or depression which can weaken our immune system, excessive use of sanitizer can weaken our immune system, social distancing also creates stress and weakens the immune system. So, we should avoid from improper use of these preventive measures to remain safe from this pandemic and also from other health problems.

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Authors Contribution

All authors contributed equally in designing, data collection, assimilation and writing of this manuscript and the final version was read and approved by all authors.

Conflict of Interest

The authors declare no conflict of interest.

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