

Nutrition Patterns and their Effects in General Public during Covid-19 Pandemic Lockdown

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Introduction

Public all over the world have complied with the government's decision to "stay home and stay safe" as a unified attempt towards the prevention of this pandemic. It started off as a much-needed holiday for all the workaholics who could not imagine life without work, on a very positive note. It was possible to share a healthy family time as a short vacation which would be followed by an anticipatory work life. Being at home together as a family brought in the much - needed time and taste towards good homely food.

There is no denial that post-pandemic consequences are likely to lead to malnutrition, be it in terms of under or over nutrition depending on the economic background of people. It is also a known fact that malnutrition can have an impact on the morbidity as well as mortality of the nation. However this article focuses on the nutrition patterns and their effects during this lockdown.

Effects:

- The socioeconomic divide between haves and have-nots will further widen and there will be a global rise in and the undernourished leading to an unhealthy nation.
- By staying indoors without moving outdoors there is decreased physical activity which may lead to weight gain.
- Increased intake of food makes them more prone to obesity in majority of the population that may lead to non-communicable diseases like cad, diabetes and hypertension.
- In a few percentage of the population there is also increased intake of pure carbohydrate diet that leads to obesity and protein malnutrition.
- In this lockdown there are no offices and schools which disturbed the daily schedule of many people all over the world with disturbed sleep timings (both sleep deprivation and increased sleep), disturbed circadian rhythm indirectly causing bad effects on the body like obesity and mood disturbances.
- Both adults and children in majority parts of the world are not maintaining stipulated food timings and there is also increased late-night food intake leading to obesity.

- There is an even increased intake of processed foods that may contain some carcinogenic agents.
- Due to the increased economic crisis all over the world there is also undernutrition among adults and children leading to vitamin and mineral deficiencies. In some parts of the world there is a severe food crisis that people are undergoing starvation.
- Many children all over the world are undergoing malnutrition due to the loss of access to midday meals from the schools which is an important source of nutrition. This makes them susceptible to various kinds of infections which is problematic, as seeking health care in this situation is also not safe as there is a pandemic running over.
- There is global malnutrition in this lockdown period due to various factors involved like a decline in dietary quality due to sudden increase in unemployment, restrictions to the supply of food to the markets, failure of health care in supplying micronutrients, antenatal care, treatment of childhood diarrhea, infections and acute malnutrition and limited availability of health care providers for non-emergency health care as they have been already assigned covid 19 duties [3].
- There is also decreased maternal and child healthcare which is invisible but dangerous. Direct risks include limited distribution of antenatal iron folic acid or multiple micronutrients, child vitamin A supplementation, limited supply of zinc, oral rehydration salts for diarrhea [3].
- Due to decreased exposure to sunlight during this covid-19 lockdown period there is decreased production of 1,25 dihydroxy cholecalciferol i.e., the active form of vitamin D and its deficiency above acute periods may lead to increased muscle aches, depression, bone loss, bone pain, skin manifestations and hair loss.
- Staying indoors people are less exposed to sunlight which makes them prone to some inflammatory skin disorders like psoriasis due to deficiency of vitamin D.

Prevention:

- There is a need of minimum exercise to the body to avoid the ill effects of a sedentary lifestyle.
- Intake of healthy food rich in protein and fiber would be better to combat weight gain.
- Intake of foods rich in vitamins C, A, E, B6, B12, zinc and iron like dates, leafy vegetables, mushrooms, milk, citrus fruits would be beneficial to the health [1].
- Vitamin A is made up of fat soluble compounds such as retinol, retinoic acid and beta carotene which aids in immunity against susceptible infections and is of much importance in this pandemic period. Isotretinoin, a retinoid which is present in vitamin A mediates down-regulation of angiotensin converting enzyme 2 which is an important host cellular protein that is required for the entry of SARS-COV-2 into the body [2].
- Vitamin D and E helps in immunity against COVID-19 as vitamin D and E deficiency cattle have increased susceptibility to bovine coronavirus infection [2].
- It is also found that administration of intravenous bioactive lipids like arachidonic acid has decreased the risk of infection due to SARS, MERS and SARS-COV-2 [2].
- Governments need to prioritize upon providing nutritious food for children to combat against malnutrition ranging from simple vitamin deficiencies to gross malnutrition.

- Governments also need to plan for regular supply of micronutrients by some means to antenatal mothers and children even in this pandemic situation as neglecting antenatal and child healthcare would result in severe post effects like birth defects in newly born children and micronutrient deficiency manifestations in children.
- There must be online medical consultation access to the public in case of non-emergency situations which will be of utmost help in this scenario.
- Malnutrition in this situation may lead to wasting in children who don't have access to proper nutritious food. We have to train community health care providers, mothers at the community level to detect signs of wasting through readily accessible methods such as measuring mid upper arm circumference using tape.
- Health officials have to discuss with the ministry of health about distributing ready to use foods and other nutritious food to the malnourished children and specialized measures in in patient management of complicated cases of severe malnutrition even in the context of covid 19 [4].
- Maintaining proper sleeping habits despite relaxation of attendance to work and schools is very much important.
- Intake of freshly cooked food and immunity boosting foods would help us in avoiding unnecessary infections in these times.
- Intake of vitamin D rich foods and proper exposure to sunlight would help us combat vitamin D deficiency.
- There is a prime necessity from the governments to supply minimum food supplies to reach minimum daily requirements for the needy in this crisis to avoid starvation.
- The Government has to take measures to let the food production continue and food market functioning with social distancing and protective measures simultaneously [3].
- There is a need for the nations to create awareness among the general public by involving health personnel in spreading knowledge regarding the importance of healthy nutrition and a healthy lifestyle for building healthy nations.
- It is a challenge that every individual has to undertake in order to overcome the after effects of the post lockdown era that we are going to face in the near future.
- It should be an individual responsibility to prevent these modifiable risk factors that can have fatal consequences on the body.
- A healthy mind in a healthy body is a must and we all need to adopt it. Hence we need to look at the world events beyond COVID-19 and come out of this battle unscathed and victorious.
- It's our collective responsibility to ensure a proactive attitude towards taking control of healthy nutritional behavior and turn the current situation to our advantage in our own comfort zones.

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