The Research Dialogue

An Online Quarterly Multi-Disciplinary
Peer-Reviewed / Refereed Research Journal
ISSN: 2583-438X
Volume-1, Issue-3, October 2022
www.theresearchdialogue.com

RICH DIET AND IMMUNITY

Kavta Vishnoi

Assistant professor
Department of Education
D.G.P.G college, Kanpur

Abstract:

The purpose of this study is to investigate the connection between rich diet, immunity, and covid-19. One of the crucial shields against covid-19 is immunity. The research suggests that patients with good immunity levels are able to fight the infection better. Scientist and doctors have said that a fair close of health diet intake would help people boost their immunity levels.

There are many sources of diet that are known as immunity boosters are relevant to the time of covid-19 virus pandemic situation. some micronutrients and dietry components have very specific role in development and maintenance of an effective immune system throughout the life as well as reducing chronic inflammation.

Ongoing research on this field will ultimately lead to a better understanding of the role of diet and nutrients in immune function and will facilitate the use of bespoke nutrition to improve human health from covid-19.

KEYWORDS: Covid-19, Diet, Immunity

INTRODUCTION

As coronavirus (covid-19) ha simpacted communities around the world, many people have wondered whether there are steps they can take to stay healthy. Everyday preventive measures such as hand washing, avoiding contact with sick individual, and good hygiene can go a long way in reducing your risk for viruses.

In addition , however there is evidence that nutrition and other lifestyle measurese influence immune strength and susceptibility to infectious diseases. Whether these measures do or do not influence susceptibility to covid-19 or its clinical course is not yet known. However, there is every reason to put what we do know about foods and immune defenses to use. Here is what we know now;

COVID-19

Coronavirus disease (covid-19) is an infectious disease caused by newly discovered coronavirus. Most of the people who fall sick with covid-19 will experience mild to moderate symptoms and recover without special treatment. The virus that cause scovid-19 is mainly transmitted through droplets generated when a infected person coughs, sneezes, or exhales. These droplets are too heavy to hang in the air and quickly falls on the floor or surfaces. You can be infected by breathing in the virus if you are within close proximity of someone who has covid-19 or by touching a contaminated surface and then your eyes, nose or mouth. Here given below corana virus prevention chart.

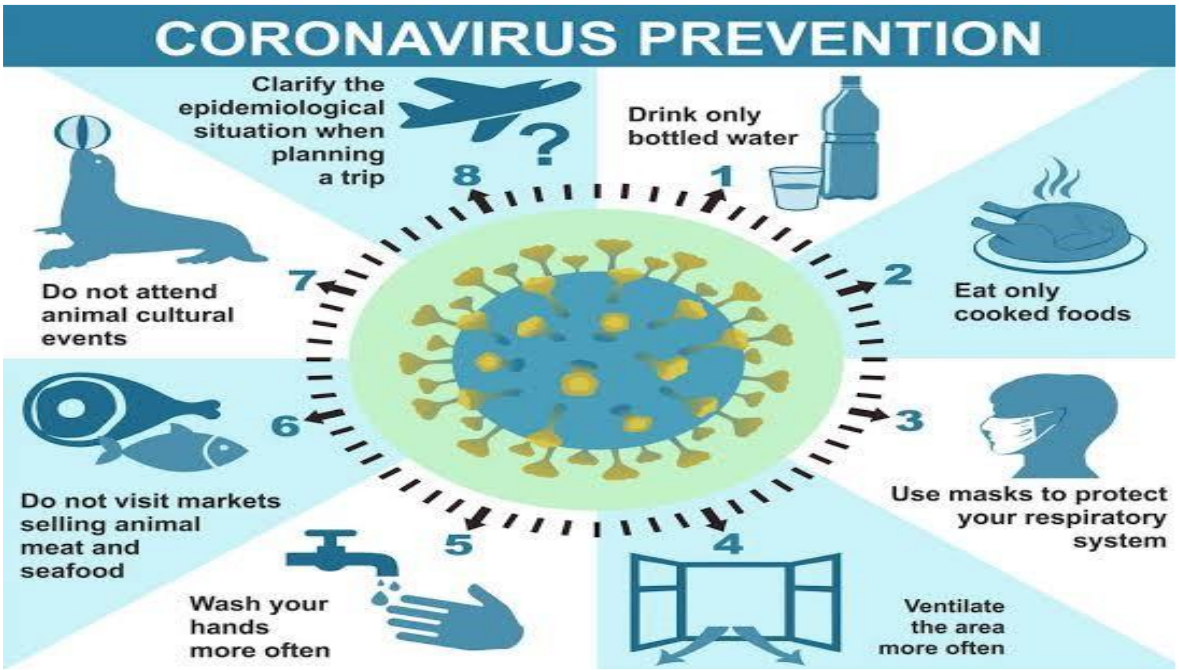

Fig. source - Google

DIET

Proper nutrition and hydration are vital. People who eat well balanced diet tend to be healthier with stronger immune systems and lower risk of chronic illnesses and infectious diseases. So you should eat a variety of fresh and unprocessed foods every day to get vitamins, minerals, proteins, dietary fiber, and antioxidants your body needs. Drink enough water. Avoid sugar, fat and salt to significantly lower your risk of overweight, obesity, heart disease, stroke, diabetes and certain type of cancer.

A. Fresh And Unprocessed Foods Every Day Eat

- Eat fruits, vegetables, legumes (e.g. lentils, beans) nuts and whole grains (e.g. unprocessed maize, millet, oats, wheat, brown rice, yam, taro or cassava) and foods from animal sources (e.g. meat, fish, eggs, milk)
- Daily eat two cups of fruit (4 servings), 2.5 cups of grains, and 160g of beans.
- For snacks, choose raw vegetables and fresh fruits rather than foods that are high in sugar, fat or salt.
- Do not overcook vegetables and fruit as this can lead to the loss of impotant vitamins.
- When using canned or dried vegetables and fruit, choose varieties without added salt or sugar.

B.Drink Enough Water Everyday

- Water is essential for life. It transports nutrients and compounds in blood, regulates your body temperature, gets rid of waste and lubricates and cushions joints.
- Drink 8-10 cups of water every day.
- Water is the best choice, but you can also consume other drinks, fruits and vegetables that contain water for example lemon juice (diluted in water and unsweetened), tea and coffee. But be careful not to consume too much caffeine, and avoid sweetened fruit juices, syrups, fruits juice concentrates fizzy and still drinks as they all contain sugar.

C. Eat Moderate Amounts Of Fat And Oil

- Consume unsaturated fats (e.g. found in fish, avocado, nuts, olive oil, soy, canola, sunflower and corn oils) rather than saturated fats(e.g. found in fattymeat, butter, palm and coconut oil, creams, cheese, ghee and lard).
- Avoid processed meats because they are high in fat and salt.
- Where possible opt for low fat or reduced fat versions of milk and dairy products.

- Avoid industrially trans fats. These are often found in processed food, fats food, snack food, fried food, frozen food, cookies, margarines and spreads.

D. Eat Less Salt And Sugar

- When cooking and preparing food limit the amount of salt and high sodium condiments (e.g. soy sauce and fish sauce).
- Limit your daily salt intake to less than 5g (approximately 1 teaspoon) and use iodized salt.
- Avoid foods (e.g. snacks) that are high in salt and sugar.
- Limit your intake of soft drinks or sodas and other drinks that are high in sugar (e.g. fruit juices, fruit juice concentrates and syrups, flavoured milks and yogurt drinks).
- Choose fresh fruits instead of sweet snacks such as cookies, cakes and chocolate.

E. Avoid Eating Out

Eat at home to reduce your rate of contact with other people and lower your chance of being exposed to covid-19. We recommended maintaining a distance of at least one meter between yourself and anyone who is coughing or sneezing. That is not always possible in crowded social settings like restaurants and cafes. Droplets from infected people may land on surfaces and people's hands (e.g. customers and staff) and with lots of people coming and going you cannot tell if hands are being washed regularly enough, and surfaces are being cleaned and disinfected fast enough. [www.who.int]

Fig. source – Google

"Balanced diet comprising nutrient rich vegetables, fruits, pulses, cereals and curd coupled with a healthy lifestyle is the key to boost the immune system a focal point in the fight against coronavirus (according to the premier nutrition institute under the union health ministry)."

Immune System

Cells of the immune system, may be divided into those of the innate and those of the adaptive immune response. The innate response is the first response to an invading pathogen. Cells of the immune response include phagocytes (e.g. macrophages and monocytes), neutrophils, dendritic cells, mast cells, eosinophils and others. The innate response is rapid but not specialized and is generally less effective than the adaptive immune response.

The adaptive immune response has the ability to specified recognise a pathogen and remember it if exposed to it again. T cells are critical in antigen recognition and the co-ordination of the immune response. T cells are present in an array of subtypes that coordinate different types of immune response. Broadly they are into the cytotoxic T cells (bearing the CD8r receptor) which are involved in direct killing of infected damaged cells and tumour cells and the bear the CD4 receptor and are important in coordinating the response of other immune cells. There are a number of subtypes of T cells defined by the cytokines they produce. Initial studies identified two subsets, the Th1 cells, which produced interferon gamma (IFN-y) and interleukin (IL)-2 and were important in antiviral and cellular immune response and Th2 subset producing IL-4, IL-5 and IL-13 and involved in humoral (antibody) and anti-parasitic response. It is now apparent that there are anumber of other Th subtypes which do not fall into these categories. This includes Th17 cells which produce IL-17A, IL-17F, and IL-22 and are important in fighting extracellular pathogens (bacteria and fungi). There are also T regulatory cells which are CD4-bearing T cells vital in mainaing tolerance to allow the immune system to ignore non-harmful non-self (such as food, pollen and environmental antigens such as latex). Thus the role of Tcells is coordinating an appropriate immune response following immune stimulation or challenge.

The other lymphocytes of the adaptive immune system are the B cells, which are responsible for antibody or immunoglobulin (Ig) production. Like T cells B cells responds specifically to an antigen. They can differentiate into short lived plasma cells, which produce Igs in the short term or can become long lived plasma cells. Igs are pathogens specific molecules , which help the immune system to recognize and destroy pathogens. The B cells can differentiate into plasma cells which produce one of five

classes of Ig (IgM, IgD, IgG, IgA and IgE). Each class of Ig has aspecified role. IgM is the first Ig expressed during development, is often found as multimeter molecule (e.g. pentameric) and can bind an antigen to identify it for destruction by immune cells. IgD is found in low concentrations in the plasma and the specialist role of IgD is not yet clear. IgG is the predominant Ig class and can persist for ling periods. It has important roles in antigen labeling, resulting in more effective removal. IgA can be found in the serum (mostly as a monomer) and at mucosal surfaces (normally as dinner). At the mucosal surface IgAprotects against bacteria and viruses, preventing infection. IgA also has an important role in neutralizing food antigens and helping to maintain immune tolerance to food antigens (preventing the development of food allergy). IgE has a role in clearance of extracellular parasites (e.g. helminthes) but when produced inappropriately to innocuous environmental and food antigen has an important rokein IgE-mediated allerg. B cells through a process called class switiching to set the class of Ig that the plasma cells derived from them will produce. B cell class switching is controlled by the cytokines present, particularly IL-4, IL-6, and IFN-y secreted from Th cells.

T and B cells can specialise to become memory cells, which persist permanently or for very long periods and are able to recognize the antigen if encountered again and elicit a rapid pathogen specific immune response. The effective development of the immune system against pathogen or harmful signals and the swift resolution of the immune response is required for survival. The fighting of infection is only one piece of the puzzle. A fulminating immune respose is costly in terms of energy expended and results in damage to the host tissues, thus rapid and complete resolution of an immune response is also key. Cytokines play a role in resolution of immune response IL-10 which is produced by a range of immune cells including Tregs has anti-inflammatory actions including suppressing inflammatory cytokine production.

The instigation of an immune response and the activities of the immune cells results in inflammation (seen as redness, swelling and the feeling of heat and pain) which are signs of the damage to the tissue going on whilst the immune system does it work. This is an expected outcome of an effective immune response. Increasingly there is concern that modern lifestyle changes have resulted in the promotion of ongoing low- grade, whole body (systemic) inflammation caused by immune and other cells (e.g. adipocytes, the cells that store lipids in fat tissue) such exposures may include diet quality and quantity.

CONCLUSION

Here we conclude, the covid -19 pandemic a causing many changes in life of people. In this time nutrition and rich diet is very important to enhancement of immunity to fight against covid -19.

To boost immunity diet play an important role and other activities like – beta carotene, vitamin c, vitamin e that can boost immune function because many vegetables, fruits and other plant based foods are also rich in antioxidants they help reduce oxidative stress.

Here are the other factors that enhance immunity proper sleep because without a sufficient amount of sleep we increase risk for developing serious health problems. Covid-19 can result in a minor infection, provided they have a reboste immunity and do not engage in activities like drinking and smoking. Here is a list of measures that undertake to improve immunity. Maintaining a healthy diet is an important part of supporting a strong immune system.

- Stay hydrated (drink up to 8 to 10 glass of water every day).
- Do not skip exercise.
- Avoid smoking, alcohol and other addictive substances.
- Avoid all kinds of non essential travels.

While the battle against the covid-19 pandemic is fought by our health workers, we can do our best by limiting our exposure to the virus by staying indoors, social distancing, eating healthy diet and following basic hygiene protocol. Everyone should follow World health organization (WHO) guidance and government advice to protect against covid 19 infection and transmission. Physical distancing and good hygiene are the protection for yourself and others against covid 19.

"Strong immunity is a key weapon in the fight against covid-19."

REFFERENCES

- Caroline E. childs, Philip C. Caldev and Elizabeth A. Miles [diet and immune function, nutrients, 2019 august].
- www.who.int
- www.google.com
- www.haryanahealth.org
- www.thehindubusinessline.com

THE RESEARCH DIALOGUE

An Online Quarterly Multi-Disciplinary
Peer-Reviewed / Refereed Research Journal
ISSN: 2583-438X(Online)
Volume-1, Issue-3, October 2022
www.theresearchdialogue.com
Certificate Number-October-2022/04

Certificate Of Publication

This Certificate is proudly presented to

Kavta Vishnoi

For publication of research paper title

"RICH DIET AND IMMUNITY"

Published in 'The Research Dialogue' Peer-Reviewed / Refereed Research Journal and E-ISSN: 2583-438X, Volume-01, Issue-03, Month October, Year-2022.

Dr.Neeraj Yadav
Executive Chief Editor

Dr.Lohans Kumar Kalyani
Editor-in-chief

Note: This E-Certificate is valid with published paper and the paper must be available online at www.theresearchdialogue.com