Knowledge and Awareness about Natural Immune Booster Among General Public

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ABSTRACT

The immune system plays a vital role in protecting the body against diseases, fighting against foreign bodies and does a remarkable job in defending against microorganism and distinguishing bodies' own health issues and protecting them from infectious agents. Natural immune boosters are the product, which helps in boosting the immune system. Even some pharmaceutical preparation includes medicinal plants as they are compound extract again is a variety of diseases. Ayurvedic theory states that balance between the humours of the body that is “vayu, pitta and kaffa” leads to healthy living. The bottom line Herbs have been used as natural remedies like mouthwash, toothpaste, etc. since ancient times. An online survey was conducted among 100 general public to assess their knowledge and awareness about natural immune boosters. The online survey includes 15 questions based on immune boosters. The results said that about 97% are aware of immune boosters and also about 95% think it’s important to boost immunity. A total of hundred people of Chennai, Kancheepuram and Tiruvallur district of Tamil Nadu attended this survey. In the study, we observe that about 97% of them are aware of natural boosters, and 95% say it is important to boost their immunity. Eating a low-fat, plant-based diet may help give the immune system to boost. The immune system relies on white blood cells that produce antibodies to combat bacteria, viruses, and other invaders.

INTRODUCTION

Natural immune boosters are the product, which helps in boosting the immune system (Shah, 2011).
extract again is a variety of diseases (Sharififar et al., 2009). Ayurvedic theory states that balance between the humours of the body that is “vayu, pitta and kapha” leads to healthy living (Yin et al., 2006).

Normal biochemical reactions include the generation of reactive oxygen and nitrogen species (ROS and RNS) (Franconi et al., 2002). They are enhanced during pathophysiology conditions, oxidative stress increases and causes various diseases. Our body indicates the signs of a strong immune system. The signs of an active immune system are red, bumpy itches. The flu or a cold says that our body is failing to stop the germs/bacteria before they get in. Different types of drugs affect the body in different ways and also depend from person to person (Hausen, 2007). Some immune boosters like Aloe vera (Ghrikutma) are used in skin care preparation and also said by Shahzan et al in his study (Scott et al., 2001). He also demonstrated that Aloe vera gel extract in hepatocarcinogenesis. Onions (allium cepa) have antimicrobial, anti-thrombotic, antitumour hypolipidemic, anti-arthritis and hypoglycaemic properties in it (Divekar and Paratkar, 2018). Turmeric, well known ayurvedic or natural products, has a high range of application as antimicrobial, anticancer and also in the treatment of Alzheimer’s diseases. Neem (Azadirachta indica) acts as an immunomodulator, an antifertility agent. They also act as immunostimulants and application in radiotherapy and in ageing (Fong, 2002). Ginger has the properties of anti-inflammatory and antioxidant effects, which helps to boost immune health. More intake of antioxidant-rich foods and beverages like ginger shots may help in combat inflammation and keep your immune system healthy (Selvakumar and Np, 2017). Whole garlic (allium sativum) contains a compound called alliin. These compounds are said that there will boost the disease-fighting response of some types of white blood cells in the body when they encounter viruses, such as the viruses that cause the common cold or flu. In traditional medicine, Acacia Nilotica is widely used. This plant has antimicrobial, anti-plasmodial and antioxidant activity and used for the treatment of human immunodeficiency virus, hepatitis C virus and cancer (Shahzan et al., 2019). It is useful for the treatment of venereal diseases, nausea, burns and wounds, stomachache and diarrhea. The bottom line Herbs have been used as natural remedies like mouthwash, toothpaste, etc since ancient times (Shahana and Muralidharan, 2016). Common herbs, such as basil, sage, and oregano, as well as lesser-known herbs like astragalus and sambucus, have powerful antiviral and antibacterial effects against numerous viruses and bacteria that cause infections in humans (Rege et al., 1999). Acinetobacter baumannii is short, almost round, rod-shaped (coccobacillus) gram negative bacterium. It can be an opportunistic pathogen in humans, affecting people with compromised immune systems, and increasingly important as a hospital-derived (nosocomial)infection (Priyadharsini et al., 2018b). The symptoms of A. baumannii infections include fevers and chills, rash, confusion and/or altered mental states, pain or burning sensations when urinating, strong urge to urinate frequently, sensitivity to bright light, nausea (with or without vomiting), muscle and chest pains, breathing problems, and cough (with or without yellow, green, or bloody mucus (Girija et al., 2018). In some cases, A. baumannii may present no infection or symptoms, as with colonizing an open wound or tracheostomy site. Because most infections are now resistant to multiple drugs, determining what susceptibilities the particular strain has is necessary for treatment to be successful (Smiline et al., 2018). Traditionally, infections were treated with imipenem or meropenem, but there is a steady rise in carbapenem-resistant A. baumannii has been noted. Consequently, treatment methods often fall back on polymyxins, particularly colistin (Girija et al., 2019). Colistin is considered a drug of last resort because it often causes kidney damage, among other side effects. Prevention methods in hospitals focus on increased hand-washing and more diligent sterilization procedures (Priyadharsini et al., 2018a). An A. baumannii infection was recently treated using phage therapy (Girija, 2019). Phages are viruses that attack bacteria. The synthetic drugs/medicine causes relaxation and has an altered perception in the body. It also increases the heart rate, lowers the blood pressure, acts as a stimulant, depressants, hallucinogens and even as an addiction. Though these synthetic medicines have quick Relief and faster acting, it has its own impact on the immune system (Jacobs et al., 2009). Vancomycin-resistant enterococcus (VRE) is attaining virulence as Methicillin-resistant Staphylococcus aureus (MRSA) and these Antimicrobial resistance is a major concern in a clinical set-up (Ashwin and Muralidharan, 2015).

Immune boosters are the products that we encounter in our daily activity. Immunity is defined as the resistance gained by the body to guard against the disease. So this immunity should be healthy enough to fight against the diseases (Pratha and Geetha, 2017). So these natural immune boosters play a vital role in protecting us from the microorganism. The immune boosters include vitamins, minerals, antioxidants, probiotics etc.
In recent years it’s so obvious that we live online and most sources of data are now available online. Many online portals and sites are implementing the utilization of natural immune boosters. The healthy immune system needs good, regular nourishments. As we age, immune response becomes reduced, which successively contributes to more infection and cancer. It’s our primary duty to keep our immune system healthy. The main aim of the study is to know about the knowledge and awareness of natural immune boosters among people.

MATERIALS AND METHODS

A cross-sectional survey research approach using electronic distribution of a questionnaire was done based on knowledge and awareness about natural immune booster among the general public and the sample size was 100 participants. This was the best approach for the collection of data as a large number of the general population of the Chennai city were involved and also suitable in present conditions where people have to avoid gathering, close contact etc. The online survey included 15 questions based on immune boosters, immunity, covid-19 etc. The data were collected through an online portal that is the Google form, survey planet. Then the collected data is statistically analysed using the latest version of SPSS software. Chi-square test and pearson correlation analysis were used, with a p-value less than 0.05 to be statistically significant.

RESULTS AND DISCUSSION

A total of hundred people of Chennai, Kancheepuram and Tiruvallur district of Tamil Nadu attended this survey. About 58% of them are female and 48% of them are male (Figure 1). Moreover, about 93% of them are students who attended this survey (Figure 2). In this study, we observe that about 97 % (Figure 3) of them are aware of natural boosters and 95 % say it is important to boost their immunity (Figure 4). Eating a low-fat, plant-based diet may help give the immune system to boost. The immune system depends on white blood cells that produce antibodies to defend bacteria, viruses, and other foreign invaders. When the question was asked why it is important to boost immunity, 66.4% says that to stay healthy and protect against diseases (Figure 5). Jacobs DM et al, in his study, said that the immune system protects the body against diseases and it is important to boost immunity otherwise germs and microorganisms invade and cause sickness (Buttriss, 2015). *E. faecalis* is a gram-positive bacteria with high level of antibiotic resistance due to its pathogenicity, causes endocarditis, sepsis, urinary tract infection (UTI), meningitis and is frequently found in reinfected, root canal-treated teeth (Marickar et al., 2014). Re-infected teeth after root canal treatment harbour *E. faecalis* about nine times more than cases of primary infections. So there can be eradicated with the use of different intracanal medicament and sealer during the endodontic procedure. When a question was asked do you prefer natural foods over pills or supplements to boost immunity 58.4% (Figure 6) says that sometimes they prefer natural food over supplements and 26% of them always prefer natural food over pills and only 15% says that they never prefer natural food over pills or supplements. Brustsis et al says that excess intake of pills leads to death (Pintauro, 2018). *Laurus nobilis* were both leaves and berries are traditionally considered as astringent, stomachic, stimulant and narcotic. A decoction of the leaves is used for treating problems of the urinary organs and dropsy (M et al., 2019). It is also considered a powerful emmenagogue. The oil extracted from the seed is used to treat rheumatic pains. The natural oils in the orange peel are an excellent cleaner and give a nice shine to your sink too. (Vaishali and Geetha, 2018). 58.4% says they sometimes prefer natural food over pills/supplements.

Figure 1: This pie chart shows the gender of the participant who attended the survey where 58% are male and 42% are female.

Natural food additives include ginger garlic turmeric lemon. These additives have specific roles in immunity (Carocho et al., 2014). Around 96% of people agree with the above statement) and only 4% say that these editors have no specific role in immunity (Figure 7). Drumstick leaves as an immune booster by controlling the body temperature and has a high
Figure 2: This pie chart shows the category of the participant who attended the survey where about 93% are students.

Figure 3: This pie chart shows the awareness on the natural immune boosters and 97% are aware of natural immune boosters.

Figure 4: This pie chart shows the importance of the immune booster in our daily life, and 95% says it’s important to boost immunity.

Figure 5: This pie chart shows the reason for boosting the immune system, and 66.4% says to stay healthy and protect against diseases.

Figure 6: This pie chart shows the preference of natural immune boosters over pills/supplements.

concentration of calcium and iron content said by Nambiar et al. (Nambiar et al., 2003). Around 82% of them agree that drumstick leaves have a role in immunity (Figure 8). About 54.6% says vitamin -c is the most important vitamin for the body (Figure 9) in that where 31%.

As coronavirus (COVID-19) has impacted 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 individuals, and good hygiene can go a long way in reducing your risk for viruses, bacteria, and other pathogens. People with diabetes, respiratory illness, cardiac problems and hypertension are more prone to the diseases (Paramasivam et al., 2020). In addi-
Figure 7: This pie chart shows the addition of natural additives in our daily food in boosting the immunity and 96% says these additives have a role in boosting immunity.

Figure 8: This pie chart shows the role of drumstick leaves in immunity, and 82% are aware of the role of drumstick leaves in immunity.

Figure 9: This pie chart shows the most important vitamins that increase the immunity, and 54.6% says vitamin c is the important vitamin that increases the immunity.

Figure 10: This pie chart shows the awareness of covid-19, and its symptoms and 92% are aware of covid-19 and its symptoms.

Figure 11: This pie chart shows X-axis represents gender, and Y-axis represents awareness of natural immune booster. Blue colour - yes and green colour - no . P= 0.03, which is statistically significant. 97% are aware of natural immune boosters, where 58% are male and 39% are female. Hence men are more aware of natural immune boosters.
Figure 11: This pie chart shows the role of sugar based food in immunity, and 72.3% are aware of sugar based food in immunity.

Figure 12: This pie chart shows the usefulness of the survey and 99.9% are useful.

Figure 13: The bar graph represents chi-square analysis between gender and awareness on the natural immune boosters.

Figure 14: The bar graph represents chi-square analysis between gender and reason for boosting the immune system.

Figure 15: The bar graph represents chi-square analysis between the gender and preference of natural immune boosters over pills / supplements.

Figure 16: The bar graph represents chi-square analysis between gender and important vitamins that increase immunity.
Figure 17: The bar graph represents chi-square analysis between gender and role of drumstick leaves in immunity.

Figure 18: The bar graph represents chi-square analysis between gender and role of sugar based food in immunity.

CONCLUSIONS

Many studies have shown that fruits and vegetables provide nutrients like beta-carotene, vitamin C, and vitamin E—that can boost immune function. Since many vegetables, fruits, and other plant-based foods are rich in antioxidants, they help reduce oxidative stress. Natural immune boosters should be implemented on a daily basis since the synthetic drugs have specific adverse effects on long-term usage. Since this is a pilot study, the study group is limited. More population should be covered under the survey to create awareness about the natural products and their health benefits. The present study shows that people are very well aware about the natural immune boosters and the benefits.

Conflict of interest

The authors declare that they have no conflict of interest for this study.

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