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Role of indigenous technical knowledge in human health

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Abstract

Indigenous knowledge often forms part of people's cultural and spiritual identity of most local communities. Although the modern era is believed to be more educated and knowledgeable, it is a fact that we know very little about our traditional food. Traditional health practices have been serving human civilization for decades from the ancient period to this ongoing modern era. But the implementation of these practices has reduced as people are unaware about the benefits they achieve from it. They follow an irregular lifestyle pattern that adversely affects their health. Indigenous knowledge is a key constituent of a Community's social and physical environment and, as such, its preservation is of paramount importance. The preservation, protection and promotion of the Traditional Knowledge-based innovations and practices of local communities are particularly important for developing countries like India.

Keywords: Indigenous knowledge, human health, COVID-19

Introduction

Human body is made up of billions and trillions of cells which function in a coordinated manner to perform any activity. These cells require wholesome food for nutrition in order to work. When our diet is unable to fulfil their nutritious demand then we suffer from disease. Not only eating habits but other day to day habits are also responsible for common lifestyles disease occurrence. It has been found that non communicable diseases kill around 40 million people each year that is approximately 70% of all deaths globally (WHO, 2018). Non communicable diseases are chronic in nature and are mainly the result of improper daily lifestyle. Lifestyle can be described as a way of life led by people, communities and countries. The industrialization and advancement in technological aspects improved the standard of living of human kind but also brought its own cons that cannot be neglected. Modern lifestyle is considered to be fast where people prioritize money rather than their own physical health. The transition in lifestyle has resulted in the emergence of cardiovascular diseases which are majorly associated with obesity and other lifelong diseases like diabetes. We all luckily belong to the most diverse country of the world. We all have grown up studying the cultural diversity of our country but many of us forget about the native food of India. Although the modern era is believed to be more educated and knowledgeable, it is a fact that we know very little about our traditional food.

Indigenous knowledge often forms part of people's cultural and spiritual identity of most local communities. It is a key constituent of a Community's social and physical environment and, as such, its preservation is of paramount importance. The preservation, protection and promotion of the Indigenous Knowledge-based innovations and practices of local communities are particularly important for developing countries like India.

Some of the related terms are

- **Indigenous Knowledge (IK):** is the participants' knowledge of their temporal and social space. Indigenous knowledge as such refers not only to knowledge of indigenous peoples, but to that of any other defined community.
- **Indigenous Technical Knowledge (ITK):** is specifically concerned with actual application of the thinking of the local people in various operations of agriculture and allied areas.

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- **Belief:** change in behaviour of insects, animals and vegetation indicating a forthcoming event without any scientific rationale but could be true in happening.
- **Innovation:** outside the arena of ITC, but scientifically based development of practices using the locally available resources to solve specific problems.

Importance of Traditional Knowledge

- An African proverb says: "When an old knowledgeable person dies, a whole library dies" indicating the importance of IK.
- Indian Systems of Medicine (Ayurveda, Siddha, Unani) are part of the official healthcare system in India, and depend on a diversity of biological resources and traditional knowledge.
- Farmers and livestock keepers have improved and nurtured diverse varieties of crops and domesticated animals over generations. This has been invaluable for food security and in providing clothing, healthcare and shelter.

Indigenous Practices and Health Care Behavioral and Cultural Practices

Hand hygiene

- Appropriate hand hygiene has been found as the single, important and most economical method of reducing hospital associated infections.
- Current evidence suggests that COVID-19 transmission occurs by touching the face, nose or mouth with contaminated hand. Even contaminated hands transfer the virus from one surface to another.
- The ancient Indian literature strongly encourages the hand washing practices prior to several day-to-day activities such as prior to having meal or coming back home from outside to prevent spread of infection. The hand cleansing in Indian cultures was adopted as per the available resources, which include rubbing of hands vigorously with ash or mud followed by rinsing with water. The effectiveness of hand cleansing using mud and ash has been found equally effective as with soap. (Hoque, 1991) ^[14].

Isolation/quarantine

- Both quarantine and isolation involve separation of individual to protect others and limit the transmission of COVID-19.
- Isolation is basically separating people who are infected with the virus (with or without symptom) from people who are not infected.
- Isolation or quarantine is not a new concept in Indian cultural practices. A period of around 40 days confinement after the childbirth helps in providing social isolation to the new mother and infant to protect from infection, along with providing due rest to the mother combined with infant care. (Choudhry, 1997) ^[3]
- The common practice in India during chickenpox or small pox was to keep child in a separate room, not allowing him to play with other children, avoid visiting each other's house and refraining others to come to your house was one of the oldest example of isolation to prevent spread of infection. Though the reason for restrictions were described to please the Goddess for early recovery. Moreover, a visit to the temple after recovery can be considered as a method of announcement

of recovery and completion of isolation period. (Saxena *et al.*, 2014) ^[8].

Other hygienic practices

- The tradition of drying one's clothes and bed linen in sun is based on the principle of using solar radiation as germicide. UV C radiation of 254 nm wavelength is most effective to kill viruses. But viral nucleic acid is destroyed even by the UV A and UV B solar radiation. (Asadi *et al.*, 2020) ^[2].
- Traditionally, the houses are built with windows and high ceiling to provide sufficient sunlight and air flow for adequate cross ventilation. These factors prevent growth of infection. Sunlight has been proven as effective bactericidal against Mycobacteria, Streptococcus pyogenes, meningococci and staphylococci. Additionally, sunlight exposure also alleviates seasonal depression which occurs due to lack of sun exposure. (Hobday and SJ, 2013) ^[5].
- Removing shoes, washing hands and legs thoroughly before entering houses, is an important hygienic practice of Asian culture which prevents spread of infection inside the households. It has also been recommended during this epidemic to wash clothes after visiting outside to prevent COVID-19 transmission. (Tyagi *et al.*, 2020) ^[10]
- Before the advent of synthetic wall paints, it was a common practice to clean one's house at least annually or semi-annually, timed according to important Indian festivals (Like Holi before onset of summers and Diwali before onset of winters). The whole house would undergo spring cleaning, clearing all nooks and corners, followed by whitewashing the walls and the floor, which was an important step in not only getting rid of insects but to sanitize as well. (Tyagi *et al.*, 2020) ^[10]

Other cultural practices

- Yoga and Pranayama, an integral part of Indian culture, helps provide a holistic approach to health. Regular practice of Yoga, under proper guidance increases the strength, stamina, agility and flexibility of the body and its positive effects on various organ systems have been extensively studied. Pranayama improves the pulmonary function by increasing the vital capacity, timed vital capacity, maximum expiratory pressure and breath holding time. (Karthik *et al.*, 2014) ^[6]
- Another important practice of gargling with warm water saline is a wonderful and scientifically proven remedy to relieve symptoms of sore throat. It is very effective in controlling spread and promoting early recovery in upper respiratory tract infection. (Noda *et al.*, 2013) ^[7].
- Steam inhalation has long been recognized as a panacea for running nose, common cold, nasal obstruction and now has also been proven to be effective for prevention of viral illnesses. This point is especially relevant when we are searching for any means possible to prevent the spread of the novel Covid pandemic (Vathanophas *et al.*, 2019) ^[12]. Consumption of hot water is being touted as panacea for viral fever. Probably hot water ingestion raises body temperature, increasing body's innate immunity to fight extraneous microbial attack. (Sanu and Eccles, 2008) ^[15].
- Practices that promote outdoor activities in sun like agriculture, gardening for adults, kite flying and outdoor games in children have been a popular part of our lifestyle. Sunlight exposure is a natural source of Vitamin

D, which not only prevents rickets, but also plays a key role in various metabolic pathways. Exposure to solar radiation is a method to naturally synthesize Vitamin D, which plays a vital role in modulating the immune system. (Greiller and Martineau, 2015) ^[4].

- Our grandmothers and their ancestors used earthen pots in order to cook food. Although they were not much aware about the steel or aluminium utensils, pots made of clay (Earthenware) had strong advantages. They add calcium, phosphorus, magnesium and other minerals to the food. Clay is alkaline in nature and so when clay pots are used as food the alkaline nature of these pots neutralizes the acidic food. Apart from this many deadly diseases like cancerous cells are also inhibited in an alkaline environment.
- We all must have observed our grandparents eating their meal with hands and now many people are there who don't even know how to eat with their hands. Majority of them require spoons, although it is hygienic, but this practice has deprived us from the benefit of eating our food with our hands. According to Ayurveda while eating our food with hands, the five fingers form a yogic position called mudra which activates the sensory organs that keep prana in balance. (Unikolom, 2019) ^[11].
- Today also in rural areas people say that the real enjoyment of having meals is only through hands. This is because when the hand touches the food, the brain sends a signal to body to release digestive enzymes and thus digestion is improved and the taste of food also gets enhance.
- Earlier when there were no dining tables, everyone sat on the floor and had their meal. It has been proven that sitting on the floor cross legged while having food is typically a yogic posture called Sukhasan (Aimsindia, 2019) ^[1]. This asana is beneficial as it massages the abdominal muscles and boost blood circulation in the lower part of the body and increases flexibility. Thus this yogic posture prevented the lower back pain, joint stiffness, muscle tightness and other body problems. Apart from these advantages it has improved the postures and is even helpful in relieving stress. Sitting on dining has made us devoid of these benefits.

Conclusion

Traditional health practices have been serving human civilization for decades from the ancient period to this ongoing modern era. But the implementation of these practices has reduced as people are unaware about the benefits they achieve from it. They follow an irregular lifestyle pattern that adversely affects their health.

In this busy schedule the time management skill and proper knowledge about health is crucial for well-being. Recently we all are suffering from the havoc caused by COVID 19 disease. Many researchers and doctors suggest us to consume more garlic, ginger, black pepper, turmeric etc. Thus what humans have forgotten to add in their meals are now forced to add because of their advantages. Thus along with this different types of lifestyle related diseases are caused due to our unhealthy way of living and can be prevented or cured by bringing back to practice the traditional health and nutritional knowledge.

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