

Antimicrobial effects of natural house hold products in Indian kitchens –An overview.

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ABSTRACT

It is a very ancient practice in Indian culture and tradition treating and preventing various diseases with the food products that are available in each and everyone's house. In fact these house hold food products that are grown naturally are used on day to day cooking in each and every Indian cuisine. Especially the spices like turmeric, clove, cinnamon etc have a very great medicinal value. Oils such as sesame oil, coconut oil; milk and milk products such as ghee, butter, curd; garlic, green leafy vegetables and other herbs have shown to be very successful and harmless in prevention as well as treatment of various microbial diseases. Nevertheless, the natural house hold products have a very great influence on once oral health as well. It was very curious to know that these products play a vital role in preventing as well as treating various oral microbial maladies as well. This article overviews on antimicrobial properties of certain natural household foods from Indian kitchen.

KEYWORDS: natural, house hold, kitchen, antibiotics, synergism.

INTRODUCTION

Hippocrates a Greek physician says "Let food be thy medicine and let thy medicine be food". Food is most important aspect for once survival. A balanced diet with appropriate amount of all nutrients is very much required for one's survival and salubrious living. The one stop solution for all health issues is visiting an Indian kitchen. Various components needed for body healing, fibers, probiotic and all other nutrients are present in these Indian cuisines thus making it recognized as a functional food. Processing techniques such as malting, sprouting and fermentation increases their functional properties[1]. The most important of all these kitchen house hold products is the spice box. It has a lot of medicinal values, as traditional medicines involve number of preparations from these spices. Another beautiful medicine from Indian tradition is milk and milk products such as Ghee, Curd etc. They have been used as an medium to deliver the medicine as well as they have various properties providing essential fats, probiotics etc[2].

With increasing bacterial resistance and harmful side effects with antibiotics and other commercially available antibacterial agents, there comes a need

for natural substances that are taken in day to day food for prevention as well as treatment of various diseases. Various spices such as clove, cinnamon, cumin, thyme, turmeric etc have shown to be safe and effective to be used as a antimicrobial agents[3]. Usage of oils such as coconut oil, sesame oil; veggies such as ginger, garlic; milk product such as curd and ghee have also been proven to have a very great antimicrobial effect. This article summarizes on various antimicrobial effects of natural household kitchen products in India that have been used on a day to day basis.

BRIEF NOTE ON INDIAN TRADITION, FOOD AND HEALTH:

India has a very distinct and wide cultural diversity. Food is a part of Indian culture. Food culture among Indians are mainly based on the region they live, their geography especially the climatic conditions. Each and every part of India has specific food culture developed. These are one of the very oldest food culture and it is evident in old literature such as Ramayana, Mahabharatha, Manusmrithi etc. Indian culture considers food as a source of strength moreover a gift from God[4]. In fact Indian Culture called the 'Sanathana Dharma' have the practice of

worshipping food. Food God is called 'Annapoorani' and has a very great harvesting festival called 'Makara Shankranthi' in the month of January. Vedic culture present in India has texts for various cereals and their uses. It was curious to know that food in this culture is not only a source of nourishment, but a part of cosmic moral cycle[4]. Food can even bring us a specific character(Gunas). Yes, foods are categorized into Satvik, Tamasik and Rajasik depending on the character they bring in a human once they consume it[5]. It was surprising to see how the Indian culture has balanced their diet. Pulses are deficient in methionine proteins and cereals lack in lysine proteins. The above mentioned aminoacids are essential for normal growth. So rice a cereal was combined with a soup made of dall a pulse widely called Sambar provides all the essential aminoacids[6].

Multiple therapeutic approaches exist in ayurvedic science such as Shodhana, Nidan Parivarjan, Shamana, Rasayana, Pathya vyavastha, and Satvajaya. Shodhana is a detox therapy with traditional foods like ginger, asafetida etc. Nidan parivarjan involves avoiding causative factor for a disease. Ex over eating is a cause for obesity. Shamana therapy involves restorations of imbalance humours. Rasaya therapy involves increasing immunity to body. It mainly involves immunomodulation and rejuvenation therapy. Ashwagandha, garlic, curcumin etc are important components of this rejuvenation therapy. Food, sleep and brahmacharya are most important for healthy living in Ayurvedha. Knowledge about foods in different diseases comes under Pathya vyavastha. A proper food with appropriate nutrition is necessary for holistic health and happiness[34].

Each and every group of foods that are used in Indian cuisine has some medicinal properties and a role in diet. Milk and milk products, cereals, grains, spices, oils, Traditional fruits and vegetables etc can be broadly categorized and each group of these products have a specific role in our diet. Spices are a part of Indian cuisine as they give a flavor and texture. Spices such as turmeric and ginger are rhizomes that have shown very great health benefits. Turmeric is an antioxidant, antimicrobial agent and even it has proven to prevent neoplastic changes. Their antimicrobial effect is wide and a potent product for synergism with other antibiotics[7-11]. Ginger a rhizome used as a spice and flavoring agent also shows various antioxidant and antimicrobial property[13-18]. It is also used as a detox[34]. Spices such as pepper and clove have also shown to be a

very good antimicrobial agent[19-21,31-33]. They are also used as an astringent, as an ailment for various stomach upsets and to prevent cancers.

Grains and cereals like rice, wheat, various dalls etc are a source of carbohydrate and proteins. As mentioned above grains are combined with cereals and foods are designed in such a way that all the essential aminoacids and carbohydrates needed are taken in diet[6]. Oils are part of sauté and deep frying. Traditional cold pressed oils from sesame seed and coconut are consumed highly in India. These have various benefits like lubricating joints, providing essential fats and cholesterol and more over a antimicrobial agent[25-30]. Other than cooking, habit of applying these oils in various parts of body is also a part of the Indian tradition.

Milk and milk products are part of Indian worship, Indian cuisine, Indian cosmetic procedures etc. Milk is rich in calcium, proteins and other required minerals and nutrients. It is full of nutrients and one can meet their daily nutrient requirements with few glasses of milk. Though it has to be avoided in certain conditions, these play a very huge role in ones nutrition in preventing bone diseases and building ones bone mass from the foetal life to adulthood. This optimal bone mass is required in childhood to adulthood to prevent bone loss in the elderly[35]. Fermented product of milk called curd plays a very vital role as a probiotic. It helps in maintaining ones gut healthier[36]. Ghee another milk product plays a vital role in joint lubrication, skin health and providing healthier fat to the body. It also carries fat soluble vitamins and essential fatty acids. They also help increase mental power, appearance, as well as used as a curative for eye disease and ulcers[37].

The tradition had various antibacterial substances as a part of diet. Turmeric, ginger, garlic, pepper, clove, sesame oil, coconut oil etc had a very great antimicrobial activity. Even in case of microbial resistance, the traditional house hold products showed a better antimicrobial property even in modern days[Ref Table 1].

CONCLUSION:

Nature provides all we need starting from the food we eat. Indian kitchens have most of the medicine in very natural form that can help in ailments. Turmeric, garlic, ginger, sesame oil etc can have great antimicrobial properties. Synergism of these natural products with other antibiotics have shown to be highly efficient than when the antibiotics are

prescribed alone. Antimicrobial properties are seen even when these products are used alone. These natural products have very less side effects and they can be a candidate against developing antimicrobial resistance. Natural Ayurvedha medicine in India has lot of these kitchen edibles as medicines in various forms and preparations. More over these traditional kitchen edibles are preventive agents against various diseases. Thus they have been consumed in Indian cuisines at appropriate quantity. Efforts have been made and some of these above mentioned natural products are available commercially as supplements in form of tablets and powders. Efforts have to be made to check the antimicrobial nature of these products on wide range of microbes, especially viruses. The safer form of the products and unadulterated products of these natural kitchen antimicrobial agents is to be ensured, so that there is no toxic effect and the desired effect from these products are received in the body.

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