

BHAJANA-EFFECT OF KITCHEN UTENSILS ON HEALTH-A REVIEW**Dr.Chithra k¹ Dr.Remi Elizabhath²**

Final year PG Scholar^{1*} Assistant Professor^{2*} Department of Swasthavritta and Yoga
Alva's Ayurveda medical college and Hospital Vidyagiri, Moodubidire, Dakshina
Kannada (Dist) PIN-574227 Karnataka, India

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ABSTRACT

Healthy eating in its all aspects has a huge impact on today tomorrow and future in terms of promoting and maintaining good health. The Ayurvedic term *Karana* refers to the method of processing of the food substances. It brings about the change in characters and qualities of the food substance. These changes or the transformation is affected by various factors one among them is *Bhajana* (Utensil). Traditionally utensils made of clay, iron, brass, bronze etc. were used for cooking, storing and serving the food items but in this present era people have replaced the old traditional method with modern fancy, quick-fixes not thinking about the health hazards caused by them. Majority of them use non-stick and aluminum utensils as it is more convenient. This might be easy to use, but there are ill effects for such utensils. They are made of very dangerous materials and are also coated by toxic chemicals. During cooking process these utensils releases many hazardous substances like Teflon, BPA etc., which contaminates the food, then reaches the body and has been linked as a causative factor for many diseases like cancer, Alzheimer's disease etc. so, attention must be needed to choose the correct utensils which should be safe and beneficial for health. There are both positive as well as negative effects of different utensils on health. Hence this article deals with the health effects of both traditional as well as the modern kitchen utensils.

Keywors: *Karana, Bhajana, Utensils*

INTRODUCTION

Ahara is considered as one among the *Upastambha* or the sub pillar of life

which helps in promotion of health and disease prevention. *Acharya Charaka* explains that body is the product of food and diseases are also caused by

food¹. The way how nutrients are important in the same way kitchen utensils have got equal importance. *Bhajana* is the factor that is constantly associated with all food articles at its different stages like cooking, serving, storing, packing and even for covering the food items.

Kshemakuthuhala, which is a book on Ayurveda dietetics explains that if we choose the proper utensil then it is considered to be wholesome and it is good for the heart otherwise it will cause different types of ailments².

Among the Eight dietary principles of Ayurveda, Importance of *Karana* or Processing techniques of food items has been explained. This *Karana* or *Samskara* helps in transformation of qualities of food items³. Different variety of utensils made by different materials can react with particular food items or it will impart its qualities into the food items which is being cooked, served or stored in it.

Traditionally earthen, brass and iron utensils were commonly used but now these utensils has been replaced by various attractive and easy to use utensils like non-stick, aluminum and ceramic. People in our society is not

aware about the effects of these utensils on health.

There are different variety of kitchen utensils available in the market, but most of these modern utensils are not safe or good for health because, during cooking process various metals and toxic chemicals which are used in making these utensils are leached into food resulting in various health hazards like Cancer, Alzheimer's disease etc. According to FDA materials used to make utensils should not allow to migrate into food. So, the careful selection of utensils plays an important role in prevention of various health problems.

Ayurveda classics explains different utensils not only for cooking purpose but also for storing as well as serving the food items. The health effects of each of the utensils like gold, silver, copper, brass etc. is clearly mentioned in the classics. Hence here is an attempt to review the health effects of traditional and the modern kitchen utensils.

Traditional Kitchen Utensils

Golden utensils

Acharya Charaka explains that if a person is habituated to *Hema* or gold then the person's body become

resistant to poisons just like a lotus leaf being resistant to water drops⁴. Gold is inert to human tissues and does not cause any irritation. It also boost immunity. Ayurveda explains meat and meat preparations should be served in golden utensils. The water which is stored in golden vessel will be cool, light for digestion, balances *Tridosha*, gives strength to the body and also increases one's intellectual capacity. Cherishing food in golden utensil removes all defects of food and are good for the eyes⁵.

Silver utensils

Silver is having the antibacterial property. It kills the microbes and resist their growth, by this way it preserves the food items for longer duration. The *Ahara* to be served in silver vessels include the meat preparations as well as all the liquid items like soup, juices, and water⁶. It reduces *Pitta dosha*, increases *Kapha* and *Vata dosha*. It is also good for eyes and gives a cooling effect to body.

Bronze utensils

Bronze is the combination of copper and tin. It has both positive and negative health effects. Ayurveda explains a unique principle in relation with unsuitable food called as *Virudha*

Ahara (Incompatible food). In the context of *Virudha Ahara*, it is explained that the ghee which is stored in bronze vessel is considered as *Samskara Virudha* (improper preparation of food). An experimental study on the same concludes that storing ghee in bronze vessels may impair its quality and promotes harmful effect on health⁷. The water which is stored in bronze vessel will be hot in potency, heavy for digestion, increases *Pitta* and *Kapha dosha*. The dishes or regimens prepared of *Pishtanna* (dough) should be kept in the wares/containers made of bronze⁸. Eating in bronze utensils enhances intellect, blood gets cleaned and increases the appetite.

Brass utensils

Brass is a good source of copper and zinc. Zinc is the mineral that helps in building immunity. The water stored in the brass vessels will be hot in potency, reduces *Kapha dosha* and increases *Pitta dosha*. Cooking and eating in brass utensils helps to relieve *Krimi* (worm infestations) and *Kapha dosha*⁹.

Iron utensils

Iron utensils are also safe and have its own health benefit. It is not coated with any harmful synthetic materials and very less oil is required for cooking in

iron vessel. The *Ahara* or food items to be served in iron utensils include, ghee, meat and meat preparations, green leafy vegetables and the mushroom preparations. The water stored in iron vessel is beneficial for bleeding disorders, reduces itching and also balances *Tridosha*. It is explained that if a person takes food which is prepared in iron vessel will have good strength, it reduces swelling and anemia¹⁰. So, it is always good to cook food in iron vessel for iron deficiency people, as iron gets impregnated into the food being cooked in it.

Copper utensils

Copper is an essential trace mineral that is vital to human health. It is a popular metal for storing water. Storing water in copper vessel creates a natural purification process. when water is stored in copper vessel it releases some of its iron in water through oligodynamic effect. Due to its antimicrobial property, it purifies the water and makes it perfectly fit for drinking. It detoxifies and cleanses the stomach. Copper also helps in the absorption of iron in body. The acidic foods like tomato should not be cooked in the copper-made vessels, as it can lead to anorexia and hyperacidity¹¹.

Clay utensils

Clay utensils are considered to be the best since it retains the nutritional value of the food which is being cooked, served and stored in it. The clay pots add many important nutrients like calcium, phosphorus, iron, magnesium and sulfur to food, which are extremely beneficial to our body. Clay is alkaline and it neutralizes the pH balance and hence act as natural detox. The *Ahara* to be served in clay utensils include, water, alcoholic preparations, *Payasa*, milk and buttermilk¹². The water which is stored in clay pot has a natural cooling effect and it is beneficial in nourishing and strengthening the body.

Stone utensils

Stone utensils releases calcium, magnesium, iron to the food which are essential minerals to our body. It also retains nutritional value of the food which is cooked in it. The *Ahara* that can be served in stone utensils include the green leafy vegetables preparations, *Khada*(Type of vegetable soup) and *Katvara*(Buttermilk)¹³.It is considered to be one of the best utensil for cooking acidic foods as it will not react with such acidic food items.

Wooden utensils

Wooden utensils are soft and very gentle to use. The *Ahara* to be served in wooden utensils include milk, preparations made out of meat and green leafy vegetables. The food prepared in wooden utensils helps in increasing the appetite¹⁴.

Glass utensils

It is safest and non-toxic material. It is easy to clean and use. The clearest advantage is that it is see through. Since it is inert it is safe to store food. The only disadvantage is that it can break if not used properly. The specific regimens or recipes belonging to food such as *Raga*, *Shadava* and *Sattaka*(Sour preparations) should be kept in glass utensils¹⁵.

Modern Kitchen Utensils

Non-stick utensils

Non-stick utensils are very popular now a days. It has gained this popularity for the reasons like food will not stick to the pan, it is easy to clean and can be used with less oil or no oil. It also has various disadvantages. Non-stick utensils are made with a chemical called polytetrafluoroethylene (PTFE) and it also has a trade name "Teflon®". Perfluorooctanoic acid (PFOA) is a chemical used in production of Teflon.

PFOA has the potential to impact health and develop health hazards since it can stay in human body and environment for longer duration. At temperatures above 280⁰ C. PTFE coated surfaces begin to emit degradation products in the form of particulates and gas. PTFE toxicosis has been reported infrequently in humans as 'Polymer fume fever'. It is characterized by symptoms such as fever, shivering, sore throat and weakness. In US, the data from National Health and Nutrition Examination Survey in 2003-2004 suggests that the chemicals like PFOA, PFOS, PFHXS and PFNA have been found in bloodstream of 98% of individuals¹⁶. Earlier,US was making Teflon with PFOA but, today all Teflon products are PFOA free in US or used in extremely small amounts since 2013. But some of the countries are still using PFOA in synthesis of PTFE.

Aluminum Utensils

Aluminum utensils are a part of most households in India and in other developing countries. It is light weight, heats quickly and can buy in low cost. Aluminum foil is also used for food packaging in both developed and developing countries. Some recent evidences suggest that aluminum

leaching from the cookware and foils may cause illnesses such as anemia, dementia and Osteomalacia¹⁷. Aluminum in the body prevents the uptake of other essential minerals like Calcium, Zinc etc. Aluminum has a tendency to accumulate in tissues and organs, which may result in their dysfunction. According to The Bureau of Indian Standards (BIS) aluminum utensils used for cooking should have a high grade of smoothness which is obtained by coating of aluminum oxide and anodizing the surface. The extend of leaching of aluminum from such utensils is minimal. So, cooking and serving food in uncoated aluminum utensils should be avoided.

Stainless steel utensils

Stainless steel utensils are considered to be safe for health as it does not react with the food which is being cooked in it. It is made from iron, nickel, chromium and other metals. These metals can migrate into food, but until cookware is damaged the amount of metals leach into food is considered negligible and no health risks reported with good old stainless steel. Leaching of these metals depend on the stainless steel grade, cooking time and cookware usage.

Ceramic and Enamel utensils

Ceramic and enamel utensils can be easily cleaned, heated to fairly high temperatures. These utensils are used by people on daily basis without being cautious of exposure to heavy metals through possible leaching from the glaze which is applied to the ceramic and enamel utensils. The components used in making glazing or decorating them includes lead and cadmium. Both these metals are highly toxic substances thus these has to restrict or at least limited in cookware manufacturing. World Health Organization (WHO) has identified lead as one of the leading chemicals of concern to public health¹⁸. Lead contaminated ceramics from Mexico, China and some European countries are well-established sources of clinically significant lead poisoning. Lead poisoning can cause high blood pressure, headaches, reduced sperm count in adult and in children it can cause developmental delays, hearing loss and seizures.

Plastic Utensils

Plastic is lightweight, cheap and easy to use. The transfer of harmful toxins from plastic in all processes like cooking, packing, storing often goes unnoticed,

but it has the potential to cause long lasting health issues. Bisphenol (BPA) is a chemical used in production of Plastics. Recent human studies indicate that BPA exposure in adults may be associated with reduced ovarian response, reduced sperm quality, altered thyroid hormone concentrations, Type-2 Diabetes, Cardiovascular diseases and altered liver functions¹⁹.

DISCUSSION

The utensils to store, cook and serve the food items have been a necessity since the time human beings started to cook and eat food. Ayurveda classics explain different types of kitchen utensils made of metals, stone, clay etc. Each of these utensils imparted its unique properties in process of making, serving and storing food. In *Kshemakuthuhala*, a book on classical treatise on health care, Dietetics and Cookery culinary science explains that to carry out the procedures for cooking the food, the utensils should be earthen pots which need to be properly washed with water. The food cooked in this utensil prove quite relishing and qualitatively wholesome to all the consumers of diet. In case of absence of earthen wares, the food may be

cooked in iron made wares or metallic utensils. Copper utensils are considered best for storing water as it is having antimicrobial activity and copper ions are immunity boosting. In the absence of copper vessel, earthen pot is considered to be good for storing water. The ghee should be served in *Krishnalouhapatra* (black iron vessel) it may be because the absorption of iron ions increases with Ghee. All the liquids or drinks should be served in silver vessel this may be because the silver purifies and prevents the putrefaction of the liquid. The sour preparations are to be served in utensils made of precious stones. This may be due to the non-reactive property of these stones so that it will not corrode on contact with sour food. The food regimens prepared in bronze made utensils/wares is attributed as wholesome in general; it promotes wisdom and it is considered to be pious/sacred with purity. But the deviation in keeping the food items in utensils other than prescribed containers is liable to cause various types of ailments consequent to food-intake. Even with these health benefits the ancient utensils had their own demerits. Some of them were heavy

and very costly for day to day use like gold, silver etc.

Due the advance in science now people use the materials which are light weight, non-sticky and low in cost. The commonly used utensils are non-stick, aluminum, stainless steel, plastic and ceramics. These new materials caused newer threats to the health of people and the environment.

CONCLUSION

The selection of right utensils for cooking, serving, storing the food items is considered as wholesome for alleviation of various diseases. It also proves to be always beneficial for healthy, comfortable and energetic state of body and mind. There is nothing more important than a healthy mind and a healthy body. It is never late to change our unhealthy practices and start taking up a healthier lifestyle. Small steps taken at home will definitely bring changes in our well-being. The knowledge about the positive and negative effects of different materials can help to choose the right utensil which is safe for health.

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Corresponding author:

Dr.Chithra K

PG Scholar, Department of Swasthavritta and Yoga, Alva's Ayurveda Medical College and Hospital Moodubidire, Dakshina Kannada (Dist), Karnataka, India

Email: sumithra.gangadharan@gmail.com

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