

A Silent Pollution Caused By “Spitting in Common Places”

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There is a thick liquid which is scientifically called ‘saliva’ (some other names are spittle, sputum) in the human mouth for the use of several essential purposes. Saliva automatically activates in various conditions with different reactions. The desire to digest a delicious meal is shown by salivating, while similar reactions occur in unpleasant situation where a bad smell is emitted. However, in an undesirable moment we tend to spit instead of showing a relish. This means that saliva which beneficially participates in the digestive system, becomes an adversity and a silent pollutant when one spits in public places. This issue of showing the benefits of saliva for human beings, and the adversities caused when spitting in public places are briefly discussed in the article.

Our living environment

Our surroundings are full of the green gardens

with unbelievable biodiversity, as well as water sources and streams with pure natural water. This attractive and greenish environment is continuously altered by nature and by man. Out of these natural changes, negative results can be controlled and minimized only up to a certain level. However,

it is imperative that man-made hazardous activities should be definitely reduced to preserve the environment. For example, when a volcanic eruption occurs, the resulting volcanic ash spreads all over the neighborhood thereby causing an unsuitable living environment. Nevertheless the

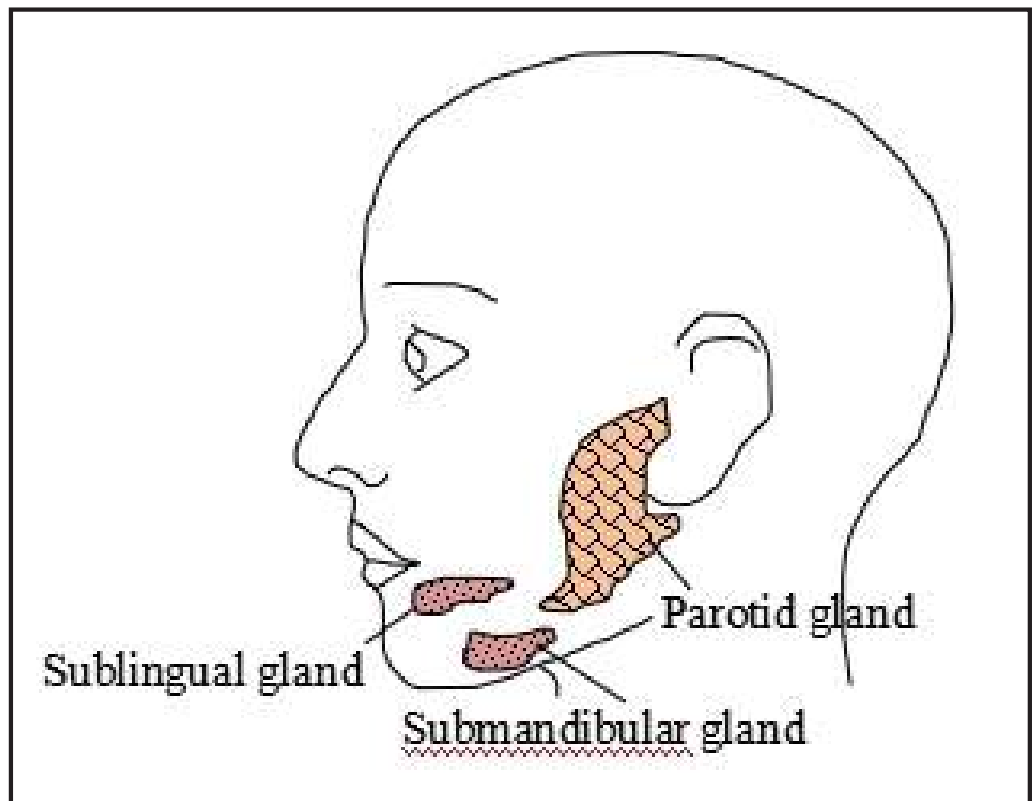


Figure 01 : Salivary glands

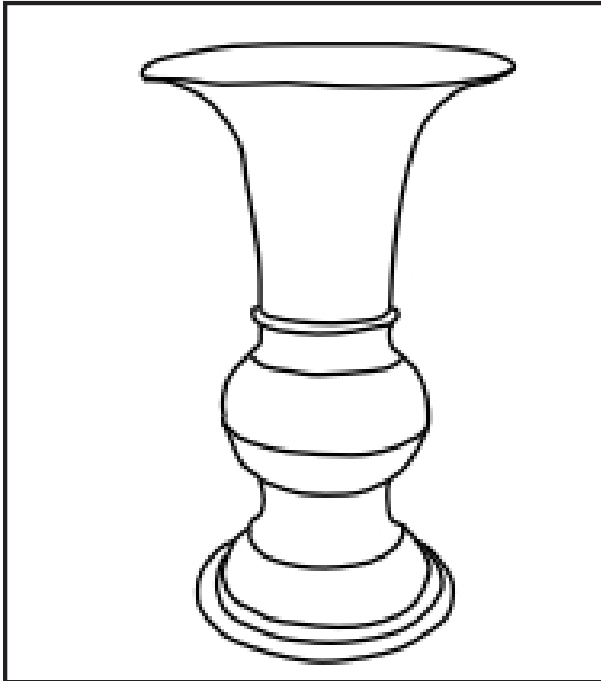


Figure 02 : The spittoon

gases that are emitted from the core of the earth during mineral mining tend to fertilize the surface of the Earth. It is also popularly known that the smoke emitted from vehicles has a serious adverse effect on the composition of the atmosphere. This is yet another case of environmental pollution with serious consequences of breathing unclean air that causes various types of diseases. Therefore ensuring the decrease of these directly recognizable and unrecognizable destructive environmental pollutants is a duty and a responsibility of man. This type of refinements cannot be achieved in the short run, nevertheless it must be brought

about gradually by motivating people to follow the correct ways in dealing with their surroundings. Most countries in the world have reached the required level by doing consciously what is required.

What is 'Saliva'?

The 'Parotid', Submandibular or Submaxillary and Sublingual (Figure 1) organs in the mouth of human beings which produce the saliva, are called 'salivary glands'. The proper flow of saliva means that the body condition is healthy. The composition of saliva which comprise largely of water, has also several enzymes used in digestion of a meal. No sooner food is taken into the mouth, the digestive process commences by salivating. In this stage, the enzymes activate on the food by masticating these

into smaller components and mixing with saliva. As a result, the carbohydrates are converted to the simple sugar 'maltose' by enzyme 'amylase'. Apart from that, saliva includes enzymes to energize the teeth for chewing, and protecting the enamel. In addition, it can fight against the viruses, bacteria and fungi that enter the mouth. As we know, the moisture of the mouth is retained by this liquid. Thus it has to be noted that 'saliva' carries out a significant role in our life process.

Diseases caused by saliva

The usual moisturizing of the components of digestive system such as the larynx, etc., due to the relishing of automatically produced saliva is good for health. Lots of diseases have been identified which are directly or indirectly spread by spitting, and the present Corona virus (COVID 19) pandemic can be placed on the top of this list. According to the World Health Organization (2021). Coronavirus. (https://www.who.int/health-topics/coronavirus#tab=tab_1), this disease can be primarily passed from an



Figure 03 : Spitting on the sidewalk



Figure 04 : Symbol of ‘No spitting’

infected person to others by the droplets of saliva through coughs, or discharges from the nose as a result of sneezes. However, it may spread in several other ways by saliva, as for example through droplets that are released when talking, sneezing freely through the mouth, coughing without covering the mouth etc. On rare occasions, the use of equipment close to the mouth, like microphones, can be a path of carrying the virus. People should take note and prevent these types of situations in the society. Apart from this pandemic, some other diseases such as influenza, hepatitis, tuberculosis also can spread through saliva.

Inheriting the great traditions and lifestyle practices of our forefathers As citizens of an Asian country, we are being

constantly reminded by our parents and elders of following the great traditions of our forefathers. From childhood they try to orient children to follow the good traditions and habits that have been a characteristic of our great forefathers. Children are often advised to avoid speaking when they are either in

the process of partaking food or when in the process of masticating food, that may cause spitting out of saliva, to the discomfort of others. Often infants and young children tend to spit out without realizing that this is a bad habit or practice. Chewing betel leaves is a traditional habit. Nevertheless, it was always the practice for elders to ensure the use of a spittoon for spitting or throwing out the chewed or masticated matter (see

Figure 2). Since conservation of the environment was a great tradition of ancient people, they always advised the younger generation to avoid polluting streams and rivers by spitting into the flowing waters of such streams and rivers. The poem ‘Sirith Maldama’ [පාසලෙහි තැන තැන.. කෙල නො ගසන් නොහොබි දැන.. සෙම් සොටු සුරමින.. මිදුලෙහිද නො දමන් කිසි තැන.. (සිරිත් මල්දමල ඇම්. ඇල්. සිල්වා ගුරුමුහන්දිරම්)] which provides guidance on how to be a good child, describes the proper manner in which spitting should be done (translation), “Everywhere in the school Not to spit knowing that is an unpleasant habit Removals of phlegm and snot Not to put everywhere in the courtyard” (M.L.Silva Gurumuhandiram) In any case, it was not the practice of our forefathers to spit on the roads. especially because shoes were not worn by them, and



Figure 05 : Street art on a school wall

consequently they always ensured that beetle chew would not cause distress to others.

How the saliva coming to the environment.

The process of relishing is an automatic process that occurs in salivating, but spitting without regard to others is a habitual practice among some people. They are not concerned about the displeasure that may be felt by other road users. In most cases, this is done by those chewing betel, and especially by those who addicted to this practice. They do not attempt to find alternative sites to spit out the betel residue which are not likely to be a distaste to other people. In urban areas defacing of streets, sidewalks, cement walls, pavements, bus stands, and platforms in railway station have caused massive environmental problems. An example of spitting on the sidewalk is shown on Figure 3. It is also the pedestrians and roadside sellers who face this inconvenience, usually with unpleasant smells and saliva, which spread on the floor. To make matters worse, passengers in public transport systems, especially passengers in buses tend to spit out of the windows without any regard to the nuisance caused to pedestrians. In such instances very often pedestrians are inconvenienced because their dresses or clothing are dirtied. Although some may tend to ignore such behavior, it has to be noted that this practice is one of the ways in which the Corona 19 virus spreads in the public domain.

Strategies to control and an example of self control

Controlling of spitting in urban areas is not an easy task, because there are no specific areas where spitting can be permitted. However, to minimize the disposal of saliva in the office premises, some devices have been introduced by the government and other institutions. For example, placement of 'No spitting' sign boards near densely populated areas and hospitals, use of 'No spitting' symbols (Figure 4) to imply prohibition to spit out. However, this is rare in Sri Lanka. In early times, sand filled baskets were used for spitting in hospital areas etc. which are presently not in use.

This situation has been recently corrected by the society with or without their knowledge. The walls along roads, school buildings as well as near the base of towers have been decorated with paintings by street artists. Figure 5 shows a school wall which has been beautified with an advisory street art. Many have supported and offered to assist in this task. What has been identified is that, spitting near these paintings has automatically stopped. As a result, pleasant pavements have been opened for pedestrians. This is a silent attempt at preventing spitting in common places, which can be explained as a way of helping people to realize their errors by themselves.

Environmental and mental influences

The environment primarily consists of atmosphere, water and earth (soil), in the absence of which

there will be no life. Any pollution of these will be regarded as areas unsuitable for living. We are very much concerned about any contamination of these, especially through careless spitting. Under the present COVID 19 pandemic situation spitting in such social areas has to be prevented. The droplets of saliva can directly spread the disease to people in the close neighborhood, while wind will work as a carrier of the infection to even remote areas.

Regardless of seasons, and whether rainy or not, saliva will continue to survive in the soil. During the rainy season, saliva will be transported through rivers and streams via drains, and get deposited in fruit and vegetable gardens. Under arid conditions, saliva can be transferred to other places through slippers, and will infect without recognizing the source. Likewise, such improper spitting can create temporary mental problems such as confusion, backwardness, anger, stress, etc. due to its unpleasantness. In this manner, environmental, mental and social pollution can occur through such 'spitting in common places.



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