

Ancient Medicine and Health care practices in Sri Lanka

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Introduction

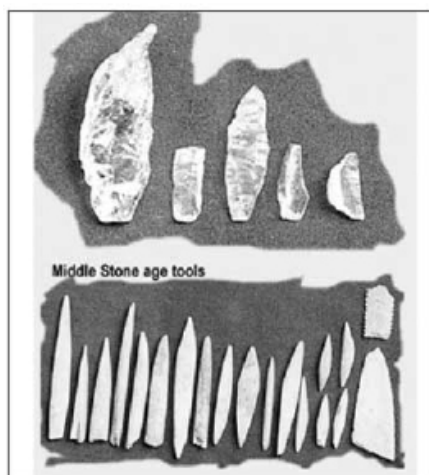
The ancient medicine and healthcare in Sri Lanka can be considered as having a history of at least 10,000 years. This is the period of stone age when human settlements of this country existed. Information obtained through excavations by archaeologists have confirmed that these have evolved over a number of eras. Historical information has recorded certain conditions and facts related to ancient medicine. It is important to discuss the ancient medicine and healthcare practices under three time periods as follows. (i) Protohistoric period covering 10,000 to 1000 years back (ii) The prehistoric covering the period 1000 to 300 BC and (iii) the historic period covering the period 300 BC to the present day

The medical and nursing practices during the protohistoric period (48,000 BC to 1,800 BC)

There is evidence to show that there lived groups of stone age humans in Sri Lanka as early as about 500,000 years ago.

During this long history, the post Mesolithic era is considered as the last stage in using stone tools. The *Homo sapiens* that lived in this era would have faced threats of various diseases. Evidence has been found which leads us to believe that during such situations they would have made use of different medical treatments, nursing practices, drugs and medical implements. Accordingly the main items that have been identified are grinding stones, stone implements, bone implements and mineral substances. Evidence that humans of the prehistoric era have painted pieces of human bones with red ochre has been found from the precincts of the Fahian cave. These are probably

about 48,000 years old. Similar evidence has been discovered from the Alawala Pothgul cave, and C14 dating has confirmed that it belongs to a period of about 14,000 years ago. Examination of the skeletal remains of humans who lived in the stone age has confirmed that they have died at different ages in their lives. In examining the probable causes that led to their deaths at a young age, it is justifiable to conjecture that they would have been victims of various diseases, and equally they would have discovered methods to overcome them. We can surmise that the science of medicine would have developed accordingly. Even though no complete studies have been carried out relating to Paleopathology of these parts of human bones found from protohistoric excavations, examination of these bone collections confirm some basic evidence regarding certain diseases that existed. Particularly it is anticipated that several research studies conducted by the osteoarchaeology section of the Postgraduate Institute of Archaeology will in the future bring to light information regarding oral and dental diseases. During the mesolithic era that is, from about 48,000 years ago, various treatments



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have been employed in Sri Lanka to maintain the health of humans. Similarly there is evidence to indicate that action has been taken to safeguard good health through the food consumed. Ancient humans had a proper understanding of the types of plants and animals relating to their gradual domestication. This can be recognized through the study of the caves they lived in and the open burial sites

Certain findings of the archaeological excavations can be considered as materials used for medical, health and hygienic purposes. Discovery of materials such as grinding stones, red ochre, mica etc, made during excavations of Batadombalena in Kuruwita, Fahien lina at Bulathsinhala, Belilena in Kithulgala, Alulena in Attanagalla, Alawala Pollgullena which are located in the wet zone of Sri Lanka can be considered to



have been used to treat cuts, borings, contusions and bone fractures. Comparison with anthropological studies helped to understand that red ochre was applied on the human body to stop acute haemorrhage and to get protection from insects such as flies and mosquitoes. Different types of graphite have been used in such ointments. Intellectuals are of the opinion that grinding stones have been used to grind plant materials used for medicines. Samples of phytoliths obtained

from these grinding stones are still being analysed in the archaeological Botany unit of the London University. Definite conclusions can be reached when the results of these analysis are confirmed. It is probable that the early humans applied various types of clay to remove any dirt, specially on the skin. Information is available in Buddhist literature which shows that the Buddhist monks applied clay and washed it off after ablution.



Among the stone tools and stone strips found during the excavations carried out in the prenikts of Sigiriya Pothana cave there were nine tools with unique features. It can be believed that these implements were used for some purpose beyond the ordinary use of stone tools. They resemble the modern surgical instruments. In the matter of shape and features for cutting purposes also it can be believed that they were used for a specialized functions. No research work has been conducted in Sri Lanka regarding these implements. However research on a global level has found evidence to show

that Homo sapiens during the Mesolithic and the new stone age eras had carried out various surgical operations using stone implements up to the end of the 6th decade of the 20th century. Well experienced midwives in very remote villages used a piece of glass shaped from the bottom piece of a glass bottle to sever the umbilical cord during child birth (or delivery) that took place in homes. It can be believed that humans gained experience for orthopaedic treatment and treatment of bone fracture by treating domestic animals.

The fact that man has been engaged in research activities using animals is shown by the drawings discovered from Bimbethka cave in India. Although there is no definite evidence of medical methods used during the protohistoric era in Sri Lanka, it is possible to gain some ideas through the information stated above. Archaeological research evidence has confirmed that groups of people possessing very advanced cultural characteristics and a very advanced cultural social system existed during the prehistoric period which followed.

Prehistoric era (1000-300 BC)

The period around 3000 years ago represents the prehistoric era in Sri Lanka. Only a few human settlements of this era had been found. Therefore information regarding medical methods is also very scarce. Evidence has been found that people of this era had used metals and clay and to some extent stone implements for their

activities. It is not possible to consider that communities of these people which were undergoing a technological revolution were not subjected to diseases. However, during this period, because the bodies of their dead were cremated in cemeteries, evidence at least from bones which could have been used for research has been destroyed. However, the urn burial system has been discovered from the Pomparippu cemetery. From this place human remains of individuals of various age groups have been found. Among them are remains of low age groups. Such deaths of low age group persons could have been due to diseases or illnesses. The dental diseases that



the humans had during this period have been easily identified, but the other diseases have not been identified. However, the types of clay vessels discovered indicate an outstanding advanced technology of their material culture. A study of the shape and use of these vessels show that some of these may have been used for the preparation



of medicinals. Clay vessels used for the preparation of various medicines and for the storage of various ointments and oils have been found through archaeological excavations. They resemble the clay vessels used in the preparation of Arishta, forments and poultices as used in the present day system of Sinhala medicine. In the excavations conducted at the Yatigalpotha cemetery in the Galewala region, very small clay vessels believed to have been used for the storage of ointments and oils have been found.

Tools of various shapes made from copper rods have been discovered during the archaeological excavation of burial sites belonging to the prehistoric age. It is possible to believe that very likely they may have been used for medical purposes during the prehistoric age.

Some implements that have been discovered during the excavations of Polonnaruwa Alahana Pirivena belonging to the historic age bear a very strong resemblance to the implements of the prehistoric age. Therefore it is possible to believe that these implements were used in the treatment of people as well as domesticated animals. Evidence has been found to indicate that ancient



medical practitioners of Sri Lanka had used copper rods for therapies involving cauterization. These instruments should be investigated by medical practitioners or researchers with a knowledge of ancient medicine. By deep research into the material culture a substantial amount of information has been recorded on medicines and hygiene during the historic era. Uragoda has analysed multiple aspects of the medical history of Sri Lanka in his long discussions. Similarly Jinadasa Liyanaratne has presented a long description of the subject in his book titled Buddhism and Traditional Medicine in Sri Lanka. A very long paper on the ancient hospital system in Sri Lanka has been presented in Bangalore in 1995 by Professor Leelananda Prematileke and Professor Arjuna Aluvihare. In this paper they have presented a logical analysis of the surgical instruments discovered during the excavations carried out in the Polonnaruwa Aluhena Pirivena. In addition information is also available in inscriptions. The leading examples of these are the Medirigiriya inscription and the Mihinthale rock inscription referring to a hospital in Mihinthale and the Jetawana rock inscription. The

inscription of Emperor Asoka of India mentions that hospitals and therapies were provided to human beings and animals.

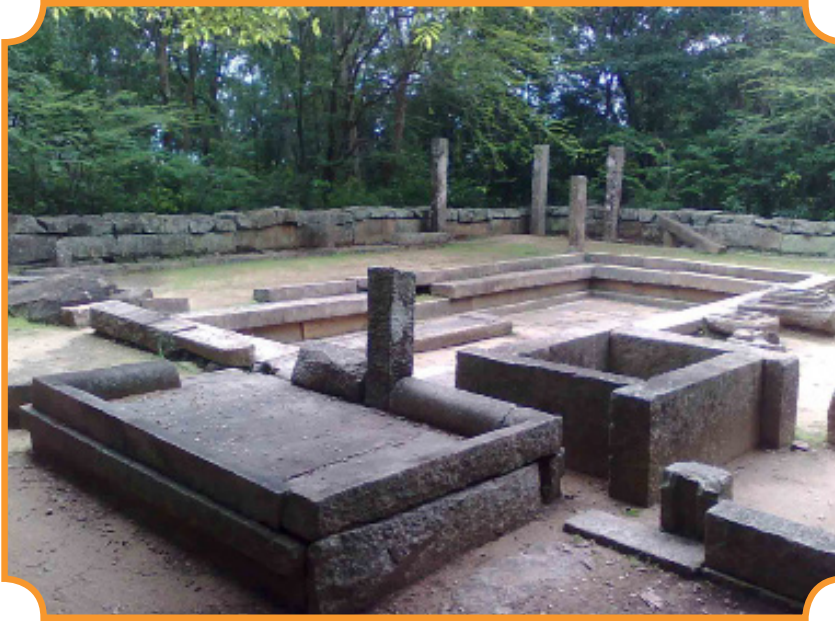
In the rock inscription of the Indian Emperor Asoka it is referred to as “Human and Animal Therapy”. In addition the information on hospitals and hygiene mentioned in Mahavamsa can be considered important because it is the most ancient record made in the historic period. Some of the information in Mahavamsa has been currently confirmed by archaeological

excavations. In the meantime Alahana Pirivena hospital complex, Mihinthale, Medirigiriya and Mahavihara have been identified through excavations conducted by archaeologists. Research carried out regarding these Vansa literature bears evidence to the fact that kings had involved themselves in hospital activities and some of them also functioned as physicians. One popular story relating to king Buddhadasa’s treatment of a cobra proves the fact that they had a knowledge of veterinary medicine. The age old saying “Kingship or Medicine” praise that the practices of medicine was equated to the status of kings. Therefore it can be shown that from the time of Pandukabaya up to now medicine and the practice of medicine have received sponsorship from various quarters and levels.

It is necessary to present at least a brief account of the role of Buddhism related to the diagnosis and cure of illness along with the advent of Buddhism in Sri Lanka in 3rd century BC. Buddhist teachings contained a great deal



King Buddhadasa



of information about medical treatment. Therefore the Buddhists have assimilated these into their lives. Certain *sutras* in Buddhism refer to many diseases. In these are mentioned the diseases that people are subjected to and also their causes. It has also been said that by chanting and listening to *Pirith* diseases have been cured. The causes of diseases are explained as follows “*pitthata samuttana, abbada, semmaha samuttana abbada, watha samuttana abbada, utuparinamaja abbada, opakamika abbada, kammavipakaja abbada..*” According to indigenous medicine diseases are determined to be caused by “*sem, pitth, waatha ha gadathu*”. It can be shown that they have used the information in *sutra* sermons.



Also a number of diseases are mentioned. One example is the dialogue related to the illnesses suffered by Girimananda. There. This sermon of the Buddha mentions a list of ailments and diseases in a list of 34 diseases such as “*chakku rogo, sotha rogo.... Ansa, pilika, bagandala*” it is possible to give an analysis of these diseases which goes beyond the simple presentation of ideas in the form of *Pirith*. It is possible to show that the “*Besajja bandanaya*” sermon in the *Vinaya Pitakaya* (code of discipline for the monks) is a summarized composition of the diseases suffered by the Buddhist priests, their causes, treatments and therapies that should be provided. It shows how the various causes of diseases, and how the afflicted persons were cured

by chanting *Pirith*.

In such instances Buddha has been referred to as the “*Besajja guru*” in Buddhist literature. It means that Buddha was considered as the teacher of Physicians/Doctors. In a sermon delivered on the occasion of a serpent bite, serpents have been classified into four royal casts or as *tingen*. “*Bandha Piritha*” This *Piritha* was chanted on the occasion of the passing away of a Bhikkhu due to a serpent bite: “*Virupakakan abhirajakuulan, erapathan abhirajakulan, jabyuputhan abhirajakulan, kanagagothamakan abhirajakulan..*” Through this we can appreciate or recognize the knowledge that prevailed at that time relating to the identification of the serpent and the diagnosis of the nature of the serpent bite



and treatment. It can be shown through Buddhist literature that they have gone further than the therapies in medicine at that time. They have put forward basic ideas of present day forensic medicine. In the “*Nawasimathikaya*” of the “*sathipattana sutra*” the ten stages of transformation or decomposition that a dead body or corpse undergoes as time passes have been described. Through the study of these stages such as “*vipubaka, vineelaka, vikakithaka,*



batha vikaithaka, vikkayika” the changes that a dead body goes through from the time of death upto the time till only the skeletal remains are left, the subject streams such as modern forensic medicine would have developed in the field of medicine. Under these circumstances activities related to medicine and hygiene developed to a high standard in monastic complexes. In this manner, and taking into consideration the information from Buddhist literature also, medicine and hospitals in Sri Lanka would have come into existence. Archeologists have discovered several such monastic hospitals in Sri Lanka. Three hospitals existed in the precincts of Mahaviharaya near Abhayawewa and near Thuparamaya. Views have been put forward regarding ground plans and the architectural features of these hospitals. Among the other recorded hospitals, the ones at Mihinthale, Medirigiriya and the Polonnaruwa Alahana Pirivena are the main ones. Of these hospitals various types of treatments have been provided to the monks. Surgical instruments have been found from these sites, which confirm that the surgical operations would have been performed on

these monks. It is possible that hospitals existed for laymen. However no excavations have been done upto now in such locations. Therefore upto now archaeologists are unable to give any information regarding any hospitals that may have been built for laymen. Because such sites have not been discovered upto now, no excavations are possible.

Hospitals meant for monks revealing their ground plans and medical instruments have been discovered during excavations. The most explored place is the Polonnaruwa Alahana Pirivena, and by the information obtained

through these archaeological excavations it can be conjectured that these hospitals had operation theatres and had facilities to treat resident patients for other medical conditions. One can gain an idea about this by examining and comparing the ground plans given below.

Implements found during excavations

The main and outstanding surgical instruments have been recorded from the Polonnaruwa Alahara Pirivena project. By comparing these surgical implements with the modern ones and explaining how they were used Professor Arjuna Aluvihare has provided a substantial amount of valuable information. These implements indicate a comparative peak stage reached through experience. Photographs of these instruments are given above. One can grasp the comparison between the ancient and the recent implements. Each and every medicinal canoe discovered from every hospital has been turned out from a single solid block of granite. This medicinal



canoe which can accommodate a fully grown adult must have been an essential feature of a hospital. The reason being that they have been found from all ancient hospital sites. It is important to note that even though other evidence has been destroyed due to environmental or other causes the medicinal canoe turned out of a stone boulder has survived.

A large number of grinding stones have been recorded from the Polonnaruwa Alahara Pirivena hospital. They are of various sizes and shapes. These grinding stones are housed at the Archaeological museum of Polonnaruwa. Also a large number of Chinese clay pots and their fragments have been found. Special attention must be paid to these clay vessels. Various shaped pots and kitchen utensils have also been found from among them. If these Chinese vessels were used for medical purposes/ industry, the contemporary Sri Lankans may have also followed Chinese practices in medicine. It is necessary to carry out broad research on this subject.

However, it is necessary to study the material culture of some hospital complexes as a whole. Also the identification should be done by carrying out excavations on a finer scale, and by doing wet and dry sieving separations and employing fine microscopic examinations. Furthermore, studies should be carried out with respect to fossil pollen. The reasons being that in this historic age various flowers have been used to anaesthetize patients. In confirming this it is also possible to obtain ideas about the types of plants used for other medicines. Pollen analysis and analysis of silican bodies become

very important in this regard. It is necessary to confirm the above findings through accurate and fine analytical methods.

Hygiene and Health protection methods

It is possible to obtain various types



of information from Buddhist doctrine and literature relating to monks, nuns and male and female devotees, and the four fold followers. Discussions have been carried out on various sanitary methods beginning with the very insignificant occasions such as relieving one self (defaecation and urination) going up to the higher sanitary practices. Also the steps to be followed when constructing lavatories and urinals

have been stated. Instances where these have been confirmed through archaeological excavation are available. The best example for this is the urinal pot seen in the Abhayagiriya monastic complex where the urinal pot has been constructed taking into consideration the cleansing or “treatment” of the urine, getting rid of the unpleasant smells and the hygienic aspects, before discharging it into the ground soil. The toilets in the Anuradhapura Batahirarama Patharagara complex are very fine examples, when considering the sanitary aspects. In this article a very short description has been given on ancient medical system and hygiene. It is expected to present the results of other research as a supplementary note to this.

When considered as a whole, the historical facts presented here is evidence that from ancient times Sri Lankans were aware of very good medical and sanitation methods, while safe guarding their identity. However it has to be pointed out that this research should be carried out on a better scientific basis. It is expected that in the future these research activities will be conducted on a broader basis and their results will be presented to the reader.

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