Siddha Medicine As Described In Siddhar Literature

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Introduction

The poems of the *siddhars* are a feast to the poets and the populace. Just like the educated person, the common man too enjoys singing these verses with true emotion or enjoys listening to those who do so. This is because these verses possess literary qualities that win the hearts of the people from various literary and social levels. Generally those with sufficient knowledge of science are not well-versed in literature; neither are those with literary tendencies proficient in science. But the *siddhars* seem to be exceptions to this general rule. They have used literature as a vehicle to convey scientific truths to the common man. They deal with *yogam*, astronomy, geography, botany, mathematics, medicine, alchemy, *manthiram* and other such fields of knowledge. Their literature dealing with such variety of topics which help to cultivate and develop the inner and outer aspects of human life, serve as concrete proof of their vast knowledge.

Today, the songs of the siddhars are available as anthologies of single poems and the compilation called Nyanak Kovai. Of these, the anthologies of single poems are more in number. But the Nyanak Kovai compilations are considered to have greater literary merit. There are many such anthologies of the songs of the siddhars have been published. Of them, the **Patinen Siddhargal Periya Nyanak Kovai(PNK)** edited by V. Saravanamuttu Pillai and published by Irattina Nayakar Sons have been used as the basic of this study.

Aim of this study

The aim of this article is to examine and to explain the subject of siddha medicine as described in siddhar literature.

Siddha Medicine

The medical knowledge and practice of the *siddhars* has developed separately as the system of siddha medicine. They were well-versed in the art of curing illnesses by using the bounties of nature like trees, plants and creepers. They utilized every part of these vegetation like their root, bark, leaf, flower, unripe fruit, fruit and seed. Besides these different metals and metallic fluids like mercury also served as important ingredients in their medicines (**Centamilum Cittamaruttuvamum**, 1998:315). The *siddhars* who sought to cure illnesses by first knowing about them and the root cause or causes of each of the illnesses also knew how to obtain knowledge of *yogam* and a firm mind.

The works of the *siddhars* bear testimony to the fact that they possessed vast knowledge in a variety of fields. But of all these, their eminence in the field of medicine seems to stand out most. The reason may be that it is a branch of knowledge that is indispensable to every human being on earth. "Even though they do not know how to live without illnesses, every one desires a healthy, happy life

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without illness" (**Ibid**. 316). One of the acts that can cause happiness, or at least remove physical pain and sorrow, is the medical treatment given to the sick. Certainly this must be the reason for the importance given to medicine by the *siddhars*.

Diagnosis of diseases

The human body is controlled by the five elements of nature. Of these wind, fire and water are known in siddha medicine as vaatham, pittam and silettumam or kabham (Nam Nattuc Siddharkal, 1982: 291). As long as these three remain in their respective proportion and nature, not increasing or decreasing there will be no unpleasant change in the body. The siddhars have found out in great exactness and detail the diseases caused by the increase or decrease of these elements in the body. Their only tool to detect this seems to have been the pulse of the patient (Ibid. 292). Among the eight kinds of examinations used for the purpose of diagnosis of diseases, naadi (pulse) is considered to be best and the most reliable factor, and that siddhars were experts in this art, and could predict the complaints perfectly, without any interrogations or further examinations. The pulse is felt in the right forearm for males, and left arm for females, just one inch below the wrist. The beating of the three pulses can be felt while they are pressed lightly by three fingers. Similarly, they have also been able to diagnose diseases through the flow of breath called saram. The inhaling and exhaling process takes place 360 times in one naaligai = 24 minutes (Ibid. 297). The siddhar texts on medicine explain in detail the proper ways to check the saram and their effects (Ibid. 298).

The text **Tanvantiri Cimittu Ratna Curukkam** contains information regarding 360 diseases that affect children and their respective treatment (**Tanvantiri Cimittu Ratna Curukkam**, 1968: 91). The **Akattiyar Bala Vakatam 100** speaks in great detail of the ways to cure infantile indigestion (*mantam*) pain and vomiting that affect children (**Nam Nattuc Siddharkal**, 1982:301). The *siddhar* songs also show that they could detect the imminence of death through the speedy quivering of the limbs of a person. "Know that if the hand, leg, forehead and cheek quiver rapidly, the time of death has come. If the hand quivers it is one year, if it is the leg it is six months, if it is the forehead it is three months and if it is the cheek it is ten days" (**PNK**. 40:395).

The *siddhar* verses also deal with appropriate cures for diseases. Since the cures or medicines are herbal they also mention trees, plants and creepers that have curative value. For instance, these verses mention the herbs that can cure headaches, the proper manner in which medication may be prepared and the way in which these should be used (**Nam Nattuc Siddharkal**, 1982:300).

Treatment

The treatment in Siddha medicine is aimed at keeping the three humors named vaatham, *pittam* and *kabam* in equilibrium (**Kural.941**) and maintenance of seven elements. When the normal equilibrium of this humors is disturbed, disease is caused. The factors, which affect this equilibrium are environment, climatic conditions, diet, physical activities, and stress. Under normal conditions, the ratio between these three humors (vaatham, pittam and kabam) is 4:2:1 respectively. The seven elements are: 1)*saram* (plasma) responsible for growth, development and nourishment; 2)*senneer* (blood) responsible for nourishing muscles, imparting colour

and improving intellect; 3)oon (muscle) responsible for shape of the body; 4)koluppu (fatty tissue) responsible for oil balance and lubricating joints; 5)elumbu (bone) responsible for body structure and posture and movement; 6)moolai (nerve) responsible for strength; 7)sukkilam (semen) responsible for reproduction. So proper diet, medicine and a disciplined regimen of life are advised for a healthy living and to restore equilibrium of humors in diseased condition. Saint Thiruvalluvar explains four requisites of successful treatment (Kural.950). These are the patient, the attendant, physician and medicine. When the physician is well qualified and the other agents possess the necessary qualities, even severe diseases can be cured easily. The treatment should be commenced as early as possible after assessing the course and Treatment is classified into three categories: cause of the disease. 1) devamaruthuvam(divine method); 2) maanuda maruthuvam(rational method); 3) asura maruthuvam (surgical method). In Divine method medicines like parpam, sendooram, guru, kuligai made of mercury, sulphur and paashaanams are used. In the rational method, medicines made of herbs like suranam, kudineer, vadagam are used. In surgical method, incision, excision, heat application, bloodletting, leech application are used.

Way to avoid diseases

While dealing with diseases and their cure, the *siddhars* have also expressed clearly the ways in which diseases may be voided. According to them a regulated way of life and eating habits keep diseases at bay. "The continuous practice of certain habits viz. eating only twice a day, not sleeping during the day, not eating any other tuberous root (*kilanku*) but only the elephant yam (typhonium orixense), not eating any fruit except the young unripe fruit of the banana, uniting with a woman only once a month and a short walk after each meal are recommended. Yama, the God of Death will have nothing to do with those who practice this diligently" (**Patarta Guna Sinthamani**, 1999:1523).

Qualities of a physician

In siddha medicine a physician should be spiritual and have an in-depth knowledge about normal/abnormal functioning of the three humors, capable of curing ailments, intelligent, truthful, confident, associated with the elite, capable of preparing high quality drugs with mastery over medical classes. According to Theraiyar siddhar in his Thailavarga churukkam, the physician should have pure thought and action, love for all human beings, a detailed knowledge about geographical seasonal variations, correct physical and mental state and dietary habits. Agasthiyar Sillaraikkovai further adds generosity, patience, untiring hard work, capability of overcoming greed, anger, knowledge about astrology and numerology as the qualities of a physician. He says that a physician should protect his patient like an eyelid, which protects the eyes and care as a mother who cares for her sick child. A physician should not wear colourful dress, nor use silk, leather rope, cosmetics and should always move around in white dress, using only sandal paste as cosmetics. Theraiyar in his Thailavarga churukkam insists that a physician should clean his hands many times and have bath after examining a patient. Siddhar texts also spell out the commendable characteristics and behavior of the patient and the physician. Pulippani recommends that a patient greets the physician with humility, offers betel leaves and areca nut (taambulam) and explain the nature of his ailment (Nam Nattuc Siddharkal, 1982:300). This siddhar's work, Pulippani Vaittiyam 500 lists the phyiscian's virtues as giving free treatment to the poor, attending to the patient's other needs like food and clothing and above all to care for him as he would his own life (**Ibid**).

Alchemy/Elixir for Long Life

Among the sciences prevalent among the *siddhars*, alchemy is an important one. If one identifies the herbs that can change iron, copper and silver into gold, and takes medicines prepared from such herbs, the body becomes free from diseases and gains a golden sheen. 'The human body is filled with many mineral constituents' (**Siddhargalin Irasavatakkalai**, 1992:10). The nutrients from many minerals are basic needs for a good, healthy life. But neither human beings nor other creatures are able to digest any of these minerals. "Hence oxides and medicinal powders are prepared to make what is indigestible into digestible substances" (**Ibid**). In other words the minerals are changed into easily digestible salts.

The science of alchemy may be defined as the science through which the destructible basic impurities may be cleansed or purified (**Patinettu Siddhargalin Valvum Vaakkum**, 1985:44). This branch of knowledge is useful to protect the body from deterioration and kept it ever young. It is also known as *kaayakalpam* (**Ibid**. 45). This means keeping the body (*kaayam*) hard and firm as rock (*kal*) (**Siddhargalin Irasavathakkalai**, 1992:12). The yogis who practice *yogam*, raise the *kundalini* and changing it into the nectar of the moon, taste it with bent tongues. The nectar is called santhira amirtham (**PNK**. 16:195). The yogis who consume this do not eat any other food, for it becomes food for their body as well and protects them from deterioration. Hence the tasting of this *amirtham* may also be called a *kaayakalpam* just like the *paspam*, senthuram and herbs obtained through alchemy.

The poems of the *siddhars* contain abundant references to the science of alchemy. But with the passage of time, people have misunderstood this science and begun to use it for wrong purposes. Thinking that they can change metals like iron, copper and silver into solid gold and amass wealth, many have lost even the little they had and regret when it is too late.

Conclusion

Based on the various aspects about the siddha medicine that have been discussed in this article, it can be concluded that the *siddhars* have used literature as a mode to convey scientific truths to the common man. Their literature deals with medical knowledge and practice of the *siddha* medicine, which help to cultivate and develop the inner and outer aspects of human life.

References

Agattiyar Vaittiya Ratna Curukkam(1967). Chennai. : Renggasamy and Sons

Cittar Nyanak Kovai(1947) edited by M.V. Venugopalap Pillai. Madras:Puracaippakkam:

Cittar Nyanak Kovai (1968) edited by Aru. Ramanathan. Madras:.Prema Piracuram.

Manickkavasagam, Ira.(1982a)Cittar Paripacai Akarati.Chennai:.Annai Apirami Arul.

Manickkavasagam.(1982b) Nam Nattuc Cittarkal (2nd edition). Chennai: Annai Apirami Arul Veliyitu.

MurugesanC.S. (1996). Cittarkalin Cakakkalai. Chennai: Alagu Patippakam.

Kailasabathy, K. (1982). *Cittar Tattuvam, Oppiyal Ilakkiyam*. Chennai: Chennai Book House (P) Ltd.

Karuvurar Pala Tirattu (1982). Ira. Nirmaladevi (Pub.). Chennai: Ulakat Tamilaraycci Niruvanam.

Pasumalaiyarasu, M.(1998). *Centamilum Citta Maruttuvamum*. Banglore:Kirisa Patippakam.

Periya Nyanak Kovai (1949) edited by V. Saravanamuttu Pillai. Madras:Irattina Nayakar Sons.

Sri Tevanatha Swamigal(1988). *Patinettuc Cittarkalin Valvum Vakkum*. Chennai: Narmatha Patippakam.

Somu, M.P.(1988). Cittar Ilakkiyam. Vol. III. Annamalai Nagar: Annamalai University.

Thevasenapaty(1981). Saiva Cittantattin Atipataikal. Chennai: University of Madras.

Tirumantiram (1962 & 1963). 2 vol. Chennai:. Kalaka Veliyitu.

Tirumantiram P. Ramanatha Pillayin Vilakkamum A. Sithambaranarin Kurippum Atankiyatu. (1996) Chennai:Kalaka Veliyitu.

Tirukkural .(1996).Sri Chennai:Shenbaga Patippagam.

Tiruvacakam(1968).with Sidpavanantar's Commentary. Tirupparaiytturai:Tapovanap Piracuralayam.

Tulasi in Hinduism: An Overview

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Introduction

Over the past thousand years, Holy basil (*Ocimum basilicum* or *Ocimum sanctum*) which is commonly known as Tulasi (Tamil) or Tulasi (Sanskrit) is one of the holiest and useful plants of Hindus. Tulasi belongs to the basil genus in the family Lamiaceae. Tulasi is known as Vishnu Tulasi(belonging to Vishnu), Shri-Tulasi (fortunate Tulasi) Rama-Tulasi (bright Tulasi); Shyama-Tulasi or Krishna-Tulasi (dark Tulasi) and other names (Simoons, Frederick J., 1998, p. 14).

Tulasi is also called with alternate names viz. Viswavandhya, Brunda, Pushparasa, Krishna Jeevani, Nandini, Viswapavani, Viswapoojitha, and Brundavani. It is called as Sri Lakshmi Swaroopam symbolizing Goddess Lakshmi and beloved to Lord Sri Maha Vishnu. It is said that where Tulasi is, there Lord Vishnu resides and such place isconsidered as a Theertha (sacred place) (Sri Krishnaarpanamasthu, 2009).

Overall this article will discuss about the benefits of Tulasi and the importance of Tulasi in Hinduism as well as how Hindus worship Tulasi in their daily life. This article also gathered the information from various sources to explain the important of the Tulasi plants among Hindus. The aim of this article is to explain the important of Tulasi in Hindu tradition and the medicinal values that it contains.

Tulasi plant in Hindu Myth and Puranas

Glory of Tulasi is mentioned in several Puranas like *Padma Purana, Brahma Vaivartha Purana, Skandha Purana, Garuda Purana, Kartheeka Purana* and *Vishnu Dharmottara Purana* etc. As per *Padma Purana* it is said that Tulasi came out from the joyoustears of Lord Sri Maha Vishnu that fell on the Divine Nectar (Amrutha) that emergedout during churning of the Ocean of Milk (Ksheera Sagara Madhanam) (Mani, Vettam, 1975).

Hindus identify Tulasi as goddess Tulasi associated with Vishnu. According to the myth (The story of Tulasi) Jalandhara and Vrinda, Vishnu destroying Vrinda's chastity to lead to the death of Jalandhara by Shiva. Then Vrinda had cursed Vishnu to become a stone and in return the god transformed her into Tulasi plant (Littleton C. Scott & Corporation, Marshal Cavendish, 2005, p. 1125-6).

There is also a myth which describes that the Tulasi plant is the meeting point between heaven and earth. In *Padmapurana* (Uttarakhanda, 6-24-31-32), it has stated that Vishnu, the Lord of the Three Worlds, takes up abode in the village or the house where Tulasi is grown. In such a house no one suffers calamities like poverty, illness or separations from dear ones. The *Padma Purana* declares that a person

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who is cremated with Tulasi twigs in the funeral pyre gains moksha and a place in Vishnu's abode Vaikuntha (Mani, V., 1975, p. 797).

The *Devi Bhagavata Purana* regards Tulasi as an manifestation of Lakshmi, the goddess of wealth and principle consort of Vishnu. J.A. Dubois, "Brahman reveres Tulasi as wife of Vishnu and believes that nothing on the earth can equal the virtues of the Tulasi" (Gautam Chatterjee & Sanjoy Chatterjee, 2001, p.93).

Importance in Hindu Ritual and Cultural

Tulasi symbolises purity in Hinduism. The name 'Tulasi' is from Tulasi Devi, who was one of Lord Krishna's eternal consorts. Hindus use Tulasi for worship purposes and for occasions such as marriage. A Hindu house is incomplete without Tulasi plant because they believe that Tulasi promote longevity and lifelong happiness. According to the ancient texts Tulasi is glorified as the one who helps in bringing people closer to the divine (J. Nat. Prod, 2012, p. 39-48).

According to Srila Prabhupada had stressed that making Tulasi puja a daily part of our morning program because Tulasi-devi is an expansion of Vrinda-devi in this world. There are *mantra* and *sloka* to perform the ritual. (Amala-bhakta Dasa, 1997).

To perform ritual for Sri Tulasi Devi Pranama by reciting this mantra.

vrndayai tulasi-devyai priyayai kesavasya ca krsna-bhakti-prade devi satyavatyai namo namah (I offer my repeated obeisances unto Vrnda, Srimati Tulasi-devi, who is very dear to Lord Kesava. O goddess, you bestow devotional service to Lord Krsna and possess the highest truth).

To water the Sri Tulasi Devi, offer incense and flowers, and perfom Pradaksina reciting this Mantra while doing it.

yani kani ca papani brahma-hatyadikani ca tani tani pranasyanti pradaksinah pade pade (By the circumambulation of Srimati Tulasi-devi all the sins that one may have committed are destroyed at every step, even the sin of killing a brahmana).

When picking Tulasi leaves, chant the following mantra:

tulasy amrta janmasi sada tvam kesava-priya kesavartham cinomi tvam varada bhava sobhane (O Tulasi devi, you are born from nectar, and you are always very dear to Lord Kesava. Now in order to worship Lord Kesava I am collecting your leaves and manjaris. Please bestow your mercy upon me).

Tulasi in Malaysian Contact

The Tulasi worship is a part of Hindu culture which was inherited by Malaysian Indian from India. Tulasi worship is a common practice among educated Hindus, especially among the Vaishavites (One who worships Vishnu). Tulasi plant is not only revered by Vaishnavites, but also Saivites(One who worships Shiva). Observation shows, that almost every other Indian homes in rubber plantation has a Tulasi Plant. In urban area, Tulasi plant worship is still in practices. Tulasi plant had been placing it in a pot or vase at the balcony or veranda of the home.

Tulasi Maadam (An altar with Tulasi for daily worship in a courtyard) also to be seen in many of the Malysian Hindus homes because it is regarded as are presentation of Goddess Lachumy. Use of Tulasi as a *Tulasi Ilai Maalai* (garland of Tulasi leaves) and *thirtham* (holy water given in temples by the priests) is a common practice in almost all the Vaishnavite temple in Malaysia.

Medicinal Value of Thulasi

Thulasi plant in its entirety is extensively used in Ayurveda and Siddha in curing various diseases like allergy, skin infections, cold, cough and respiratory infections, heart diseases stomach disorders, sore throat, ear ache, mouth infections, fever, head ache, sleeplessness (Krishnaarpanamasthu, 2009).

Shankar, Mondal, Bijay R. Mirdha and Sushil C. Mahapatra (2009), claim that "Middle of the 20th century only, scientific explorations of traditional belief of medicinal properties of Tulasi has been popularized" (p. 291). However, until today the Tulasi had become the most important sacred plant in Hinduism. Based on the researches done by many researchers, Tulasi has been well known for use of many purposes. In several ancient systems of medicine including Ayurveda, Greek, Roman, Siddha and Unani, Tulasi (Ocimum Sanctum) has vast number of therapeutic (Gupta S.K., Prakash J. & Srivastava S., 2002).

According to Hindu belief, the fragrance of Tulasi which the place it planted will keep away death and disease. Tulasi is traditionally grown in domestic courtyards, partly for spiritual purposes but also because its aroma is said to purify the atmosphere. Besides that, Tulasi helps to boosts the immune system of human body which makes it to fight against fevers, cough and cold. Basically, humans will get cough and fever when their immune system do not actively function (Sebastian Pole, 2013, p. 280-283).

Tulasi can help diabetic patients. It could control the sugar level.Research has clearly demonstrated Tulasi's ability to lower blood sugar as well as cholesterol and triglyceride levels (Anne McIntyre, 2008). Ralph Miller (former Director of Research for the Canadian Dept. of Health and Welfare) explain that "Tulasi is especially effective in supporting the heart, blood vessels, liver and lungs and also regulates blood pressure and blood sugar." (Vimal R. Joshi, Charmi S.Mehta, B.J Pattagiri & P. K Prajapati, 2012).

Stress is a very common problem among human nowdays. Recent studies have shown that the Tulasi leaves afford significant protection against stress (Bakhru H K., 1993, p.196). Tulasi's *Vata* reducing properties help calm anxiety, mild depression, insomnia, and a variety of stress-related problems such as headaches and irritable bowel syndrome. (Anne McIntyre, 2008).Tulasi is not only useful for stress relief but also for respiratory disorder problem. Tulasi is commonly known for its use in helping people with respiratoty problems. (Anne McIntyre, 2008).

According to Sukhraj Dhillon , antioxidants slow down the process of excess oxidation and protect cells from the damage caused by free radicals. Antioxidants stop this process which means Tulasi stops this process happen. Tulasi is rich in antioxidants and it has been recommended to protect against free radicals and protect from damaging excess oxidation (Anne McIntyre, 2005, p.118). Tulasi also

can be of help for mouth infections. People who are suffering from ulcer and infections can be cured by Tulasi. Besides that, it also helps to solve the insect bites. According to Lalit Mohan, Amberkar M.V. & Meena Kumari (2011), "In Ayurvedic medicine, Tulasi has therapeutic potential either alone or in combination with other plants in various clinical conditions like eye disorders (glaucoma, cataract, & chronic conjunctivitis), catalepsy, snake and scorpion bites etc".

Conclusion

Tulasi has been known for thousand of years as the most holy and sacred plant in Hinduism. Until today, Malaysian Hindus are still practicing the culture and rituals involving the Tulasi plant. But most of them in Malaysia have little or no knowledge about the medicinal properties of this plant. Hence, further research and dissemination of information about Tulasi plant is crucial. The Tulasi plant is not only a symbol of purity, but a very useful medicinal plant that is available almost everywhere in Malaysia.

Bibliography

Amala-bhakta Dasa. (1997). *The life of Tulasi Devi and her care and worship*. Nadia Productions ; Sandy Ridge, NC : Distributed by Bhaktivedanta Archives.

Anne McIntyre (2008). The Herbal Garden: Ocimum Sanctum Tulasi (Sacred Holy Basil). *Ayurveda, 150*.8-2008 (<u>http://www.positivehealth.com</u>)

Anne McIntyre. (2005). *Herbal treatment of children : Western and Ayurvedic perspectives.* Edinburgh ; Toronto : Elsevier/Butterworth-Heinemann.

Bakhru H K.(1993). *Herbs that heal : natural remedies for good health.* New Delhi u: Orient Paperbacks.

Bishnu joshi, Sunil Lekhak & Anuja Sharma (2009). Antibacterial Property of Different Medicinal Plants: Ocimum sanctum, Cinnamomum zeylanicum, Xanthoxylum armatum and Origanum majorana. Kathmandu University Journal Of Science, Engineering And Technology Vol. 5, No. I, January, 143-150.

Deshpande, Aruna (2005). India: A Divine Destination. Crest Publishing House.

Gautam Chatterjee & Sanjoy Chatterjee (2001). Sacred Hindu symbols. New Delhi : Abhinav Publications.

Gupta S.K., Prakash J. & Srivastava S. (2002). Validation of traditional claim of Tulasi, Ocimum sanctum Linn. as a medicinal plant. *Indian J Exp Biol*, *Jul;40(7),765-773*.

Krishnaarpanamasthu (2009). *Glory of Thulasi - The Divine Plant* in http://bhargavasarma. blogspot.com/ 2009_10_11_ archive.html referred on 29/04/2013.

Lalit Mohan, Amberkar M.V. & Meena Kumari (2011). Ocimum Sanctum Linn (Tulasi) - An Overview. *International Journal of Pharmaceutical Sciences Review and ResearchVolume 7, Issue 1, March – April*, 51-53.

Littleton C. Scott & Corporation, Marshal Cavendish (2005). *Gods, Goddesses, And Mythology*, Vol. 11. Marshall Cavendish.

Mani, Vettam (1975). *Puranic Encyclopaedia: a Comprehensive Dictionary with Special Reference to the Epic and Puranic Literature.* Motilal Banarsidass Publishers.

Nivedita Nanda, Sanat Kumar Sen, Mark C. Arokiaraj, Sripradha R., Roma R. & Kiran Pattegar (2009). Myocardial Infarction In Nondiabetic And Prediabetic Population : A Retrospective Analysis. *Indian J Physiol Pharmacol;* 53(4). 334–340.

Sebastian Pole (2013). *Ayurvedic medicine : the principles of traditional practice*. London ; Philadelphia : Singing Dragon.

Shankar Mondal, Bijay R. Mirdha & Sushil C. Mahapatra. (2009). The Science Behind Sacredness Of Tulasi(Ocimum Sanctum Linn.) *Indian J Physiol Pharmacol*, *53 (4)*, 291–306.

Simoons, Frederick J. (1998). Plants of life, plants of death. Univ of Wisconsin Press.

The Worshiping of Srimati Tulasi-devi in http://www.vrindavan-dham.com /vrinda/ worshiping-tulasi.php referred on 29/04/2013.

Vimal R. Joshi, Charmi S.Mehta, B.J Pattagiri & P. K Prajapati (2012). Pharmacognostic and scientific evaluation of the plant- Tulasi (Ocimum sanctum). International Journal of Green and Herbal Chemistry (IJGHC); Vol.1.No.1, 75-90.