



AN OBSERVATIONAL STUDY ON SYMPTOMATOLOGY AND SIDDHA DIAGNOSTIC TOOLS OF KANDA KARAPPAAN (HYPOTHYROIDISM)

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Article Received on 06/04/2018

Article Revised on 26/04/2018

Article Accepted on 16/05/2018

ABSTRACT

Hypothyroidism is usually is an endocrine disorder in which the thyroid gland is unable to produce sufficient amounts of thyroid hormone. This endocrine disorder can be well correlated with the signs and symptoms of *Kanda karappaan* of *Siddha* literature. Hence this observational study was conducted at the OPD of Ayothidoss Pandithar hospital of National Institute of *Siddha*, Chennai. In this study, 100 patients were screened for Hypothyroidism and 20 patients were selected based on the screening of patient population as per the inclusion and exclusion criteria listed out in the screening proforma. The patients who fulfilled the inclusion criteria were observed for a period of one year for their Clinical history, clinical signs and symptoms followed by *Envagai thervu* (Eight fold examinations) namely *Naa*(Tongue), *Niram*(Colour), *Mozhi*(speech), *Vizhi* (Eyes and vision), *Malam*(Faeces), *Moothiram*(Urine), *Neerkuri*, *Neikkuri* (Oil drop examination) and *Manikadai Nool*(Wrist circumference). The results were graphically documented and discussed. Through this study a diagnostic method for the disease *Kanda Karappaan* can be evolved thereby to aid the clinicians for an appropriate line of treatment and to adopt preventive measures based on *Siddha* system of medicine.

KEYWORDS: Siddha, Kanda Karappaan, Hypothyroidism, Envagai thervu, Observational study.

INTRODUCTION

Hypothyroidism is a state of reduced synthesis and secretions of thyroid hormones and its prevalence in the developed world is about 4.6%. It is the second common endocrine disorder worldwide next to Diabetes mellitus.^[1,2] The ancient *Siddha* system of medicine lacks a specific terminology for Hypothyroidism in its text due to the lack of knowledge in the field of medical science pertaining to anatomy or physiology. Though Hypothyroidism is generally termed as *Kurai veehdhana Noi* by present day *Siddha* physicians, the signs and symptoms of '*Kanda karappaan*' mentioned in *Siddha* literature *Yugi Vaithya Chinthamani* seem to correlate with that of Hypothyroidism. Hence an effort was made to observe the clinical symptoms and *Siddha* diagnostic techniques of *Kanda karappaan* in terms of *Envagai thervu* (Eight fold examinations) and to correlate the signs and symptoms of hypothyroidism with that of '*Kanda karappaan*' of *Siddha* literature thereby it may help to ascertain the *Siddha* treatment for *Kurai veehdhana noi* (Hypothyroidism).^[3]

Kanda Karappaan in Siddha System

The features of hypothyroidism are clearly mentioned in the *Yugi*'s texts about *Kanda Karappaan*. The

symptomatology of *kanda karappaan* had been clearly explained in each of the lines which denotes dry itchy skin, Facial puffiness, cold intolerance, depression, Hoarseness of voice and macroglossia of Hypothyroidism. According to *Siddha* concept, the basic constitution of the body is made up of 96 *Thathuvams*. Due to food and lifestyle the 96 *thathuvams* get deranged and result in diseases, either pertaining to body or mind. Excessive consumption of *Kabha* producing diet (increased intake of *Inippu* (Sweet), *Pulipu* (Sour) and *Uvarppu suvaigal*(Salty taste) is said to aggravate the *Kabham* humour which when not corrected, would affect the other two humours and the ratio of all the three humors is altered resulting in disease and its symptoms.^[4]

MATERIALS AND METHODS

The Observational study on "*Kanda Karappaan* was carried out in the Out Patient department of Ayothidoss Pandithar hospital of the National Institute of *Siddha*, Tambaram Sanatorium, Chennai-47 after obtaining the IEC. Out of the 100 cases screened using a questionnaire and laboratory tests, 20 diagnosed cases were selected from the out patient department and were followed upto a period of 1 year. Selection of cases is based on the

screening of patient population as per the inclusion and exclusion criteria listed out in the screening proforma. Normal treatment procedure followed in NIS was prescribed to the study patients and there was no infringement on the rights of patient.

Inclusion and exclusion criteria

The inclusion criteria consisted of Age within 20-50 years, those who fulfilled any of the signs and symptoms of *Kanda karappaan* as per the literature of *Yugi Vaithya Sinthamani* such as Dry itchy skin, Facial puffyness, cold intolerance, depression, Hoarseness of voice, macroglossia and those with laboratory parameters of Increased TSH and decreased or normal T4. The exclusion criteria consisted of atrophied skin, Round and plumpy face, Those with other serious illness and not willing to give informed consent. After ascertaining the patients' willingness, a written informed consent had been obtained from them in the consent form.

Observations and clinical evaluation

The detailed history of the past and present illness, dietary habits and occupational history was also taken before considering a case for selection into this study. The patients were evaluated for Siddha parameters such as Envagai thervu (Eight fold examinations), Mukkutram (trihumoural theory), Udal thathukal (Seven body components), Manikadi Nool (Wrist circummetric test), Nilam (habitat), Kaalam (Season) and modern diagnostic parameters such as Blood and urine routine, Lipid profile, Thyroid profile and motion test.

RESULTS AND DISCUSSION

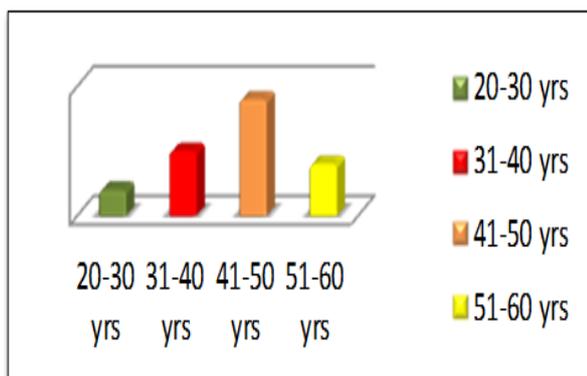


Figure 1: Distribution of Age among the study subjects.

Among 20 cases of *Kanda karappaan*, Majority of cases (45%) in the study were of 41-50 yrs. This shows the prevalence of *Kanda karappaan* increases with age. Previous studies also show that the Studies shown there is an increased prevalence of subclinical hypothyroidism after the age of 35.^[5]

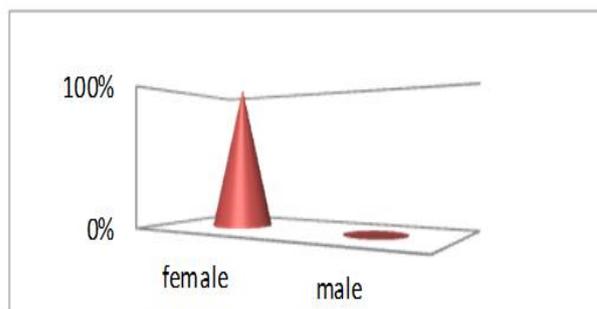


Figure 2: Gender distribution among the study subjects.

In the selected cases, all the 20 cases (100%) were females. This shows the increased incidence of *Kanda karappaan* in elderly females. It is estimated that about 42 million people suffer from thyroid disorders in India and Women are six times more prone than men.^[3] Survey on the disease high lights that through out world the prevalence of thyroid disorder is 25% in females and 0.6% in males. Though the exact reason is not known, the higher prevalence in females may be associated with oestrogen and progesterone.^[6]

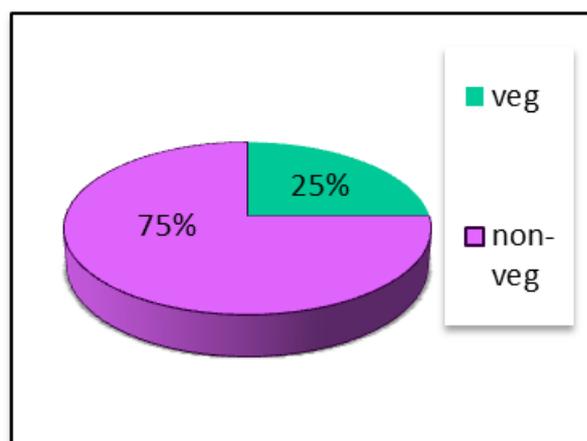


Figure 3: Distribution of Food habits among the study subjects.

Out of 20 cases 75% of cases were non-vegetarian. Previous studies by Nimmy 2012, showed that 94.4% of hypothyroidism patients were non vegetarian in their area of research and most of them were residing in coastal area where their main diet was sea foods like fish, crab etc. Research on hypothyroidism shows non vegetarian foods and vegetables like cabbage, cauliflower and soya are goitrogens which can fluctuate our thyroid hormone.^[7]

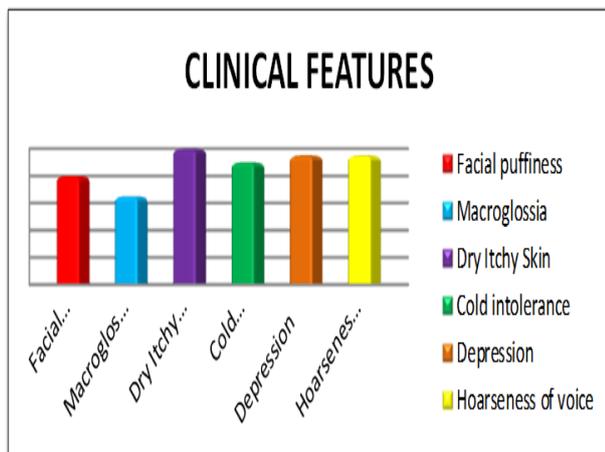


Figure 4: Clinical features presented by the Study subjects.

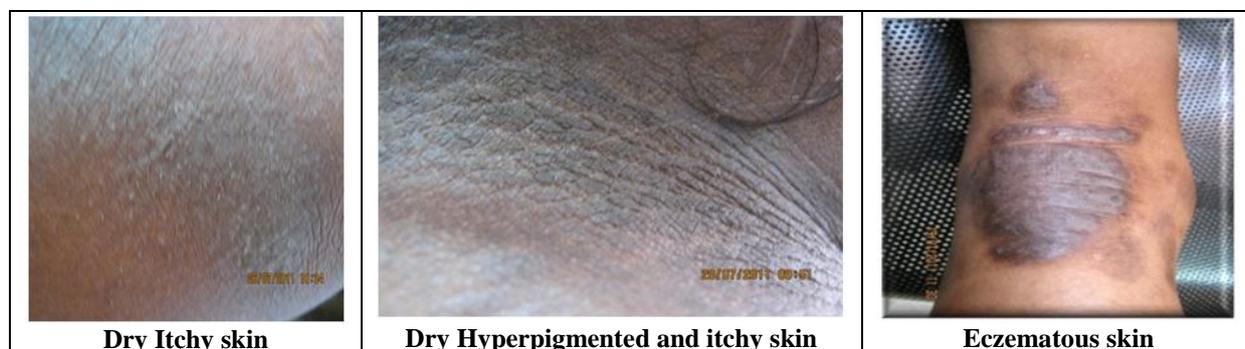


Figure 4: Sample Photographs of Dry skin in Study subjects.



Figure 5: Photographs of Macroglossia in study subjects.

Among 20 cases, 100% of cases had dry Itchy Skin, 95% of cases had mental sluggishness and hoarseness of voice, 90% of cases had cold intolerance, 80% of cases had facial puffiness, and 65% of cases had macroglossia. The symptoms dry itchy skin, depression and hoarseness of voice was present in most of the patients. This indicates the disease *Kanda karappan* which has been classified under Karappaan (Disease pertaining to skin) also presents with systemic manifestations.

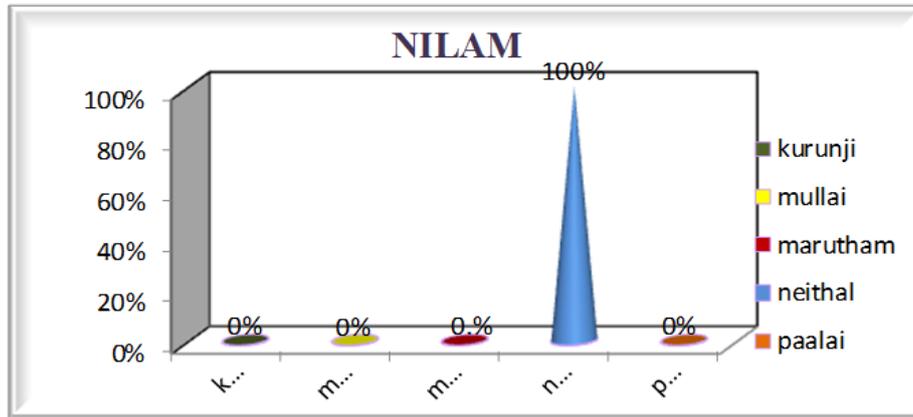


Figure 6: Distribution of Nilam (Geographical landscapes) among the study subjects.

All the 20 cases of study (100%) were living in Neithal nilam. All the cases were from Neithal region since the study was conducted in Chennai which is a coastal area. Some of the reasons may be the consumption of seafish and regular use of coconut and coconut products which is also a factor associated with hyperthyroidism. Since

coconut has stimulating effects on thyroid and there by it may cause hyperthyroidism. As sea water contains 0.05 mg / litre of iodine content, the sea fishes will also have some amount of iodine. Over the time the excessive iodine may result in hypothyroidism due to reverse mechanism.^[8]

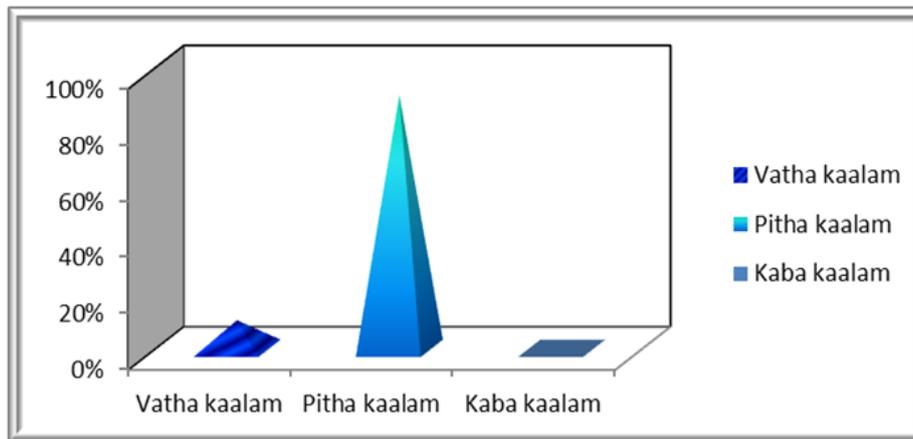


Figure 7: Kaalam distribution among the study subjects.

Among 20 cases 90% of cases came under Pitha Kaalam i.e., 34-66yrs, indicating that the disease predominates with advancement in age as hypothyroidism is an endocrine disorder associated with Increasing evidences

indicate that subclinical hypothyroidism is also related to dyslipidemia a metabolic disorder. All these metabolic processes according to Siddha concept are said to be governed by pitham.^[9]

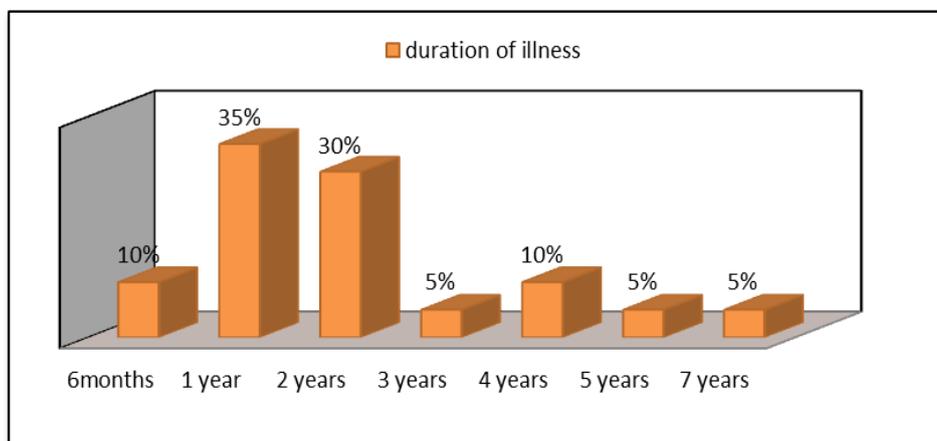


Figure 8: Distribution of duration of illness among the study subjects.

Out of 20 cases all (100%) patients were suffering from this disease for more than 5 months. This indicates chronic nature of the disease *Kanda karappan*.

Manikadai Nool (wrist circummetric sign)

According to the Pathinen Siddhar Naadinool, Manikadainool is also helpful in diagnosis. This

manikkadai nool is a parameter to diagnose the disease by measuring the circumference of the wrist by means of a thread and then dividing the measured circumference with the patient's fingers.^[10]



Figure 9: Photograph of Manikadai Nool procedure.

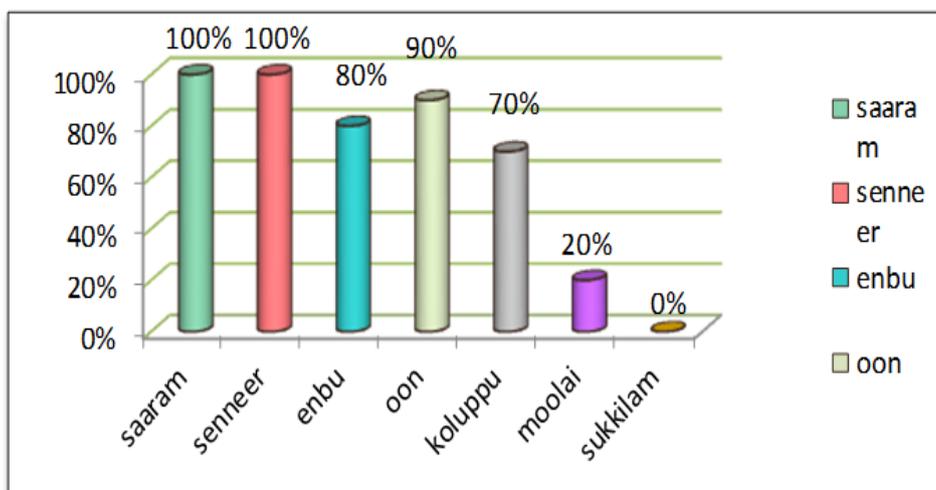


Figure 10: Distribution of Udal thathukkal among the study subjects.

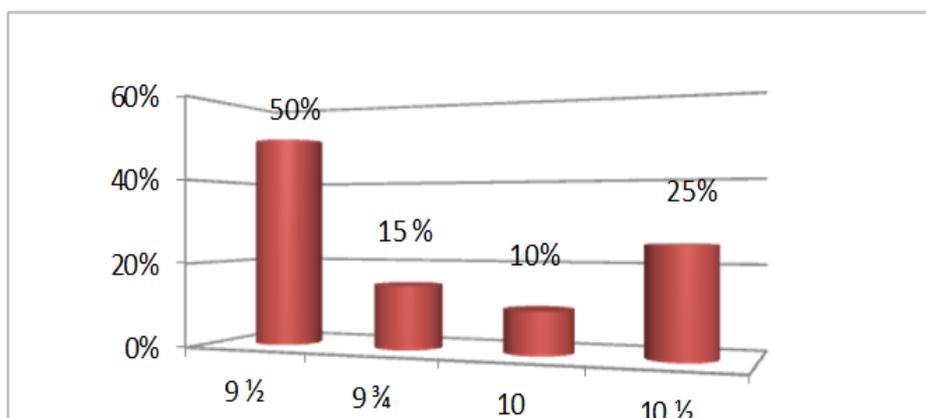


Figure 11: Distribution of wrist circumference among the study subjects.

Out of 20 cases, 100% of cases had deranged Saram, 100% of cases had deranged Senneer, 80% of cases had deranged Enbu, 90% of cases had deranged Oon, 20% of cases had deranged Moolai and 70% of cases had deranged Koluppu. Almost all the cases have affected Saaram and Senneer.

Eight fold examination

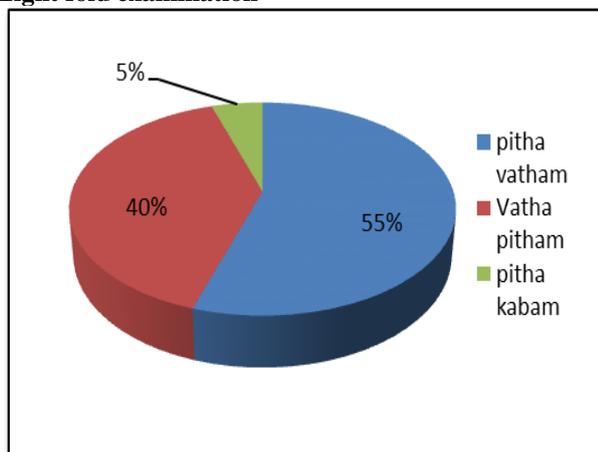


Figure 12: Distribution of Naadi (pulse).

Out of the 20 cases, 60% of cases had Vanmai character and 40% cases had Menmai character in Naadi nithanam, 60% of cases had kathithal, 40% of cases showed Illaithal character in their Naadi panbu. Among 20 cases, 55% of cases had the naadinadai of Pithavatham, 40% cases had Vatha pitham and 5% cases had naadinadai of Pitha Kabam.

Naa(Tongue)

Among 20 patients 25% of cases had fissure in their tongue, 25% of cases had coated tongue and the rest of 50% cases had normal tongue. Among 20 cases, 20% of cases had sour taste in their tongue, 35% of cases had bitter taste in their tongue and 45% of cases had normal tongue. No specific inference could be made out in this study from the examination of tongue

Niram (Colour), Mozhi(Speech), Vizhi (Eyes) and Sparisam(Touch)

Among the 20 patients, 60% of cases were of Brownish complexion, 30% of cases had Dark complexion (Udal niram) and 10% of cases had Manjal udal niram. 25% of cases had high pitched voice, 10% of cases had low pitched voice and 65% had normal voice. 60% of cases had Mitha veppam (Moderate temperature on touch) and 40% of cases had thatpam(Cold on touch). 40% of cases had increased perspiration and 55% had normal perspiration, 5% had decreased viyarvai. No specific inference could be made out from the above study.

Vizhi(Eyes)

Out of 20 cases 15% of cases had Erichal (burning sensation) in the eyes, 5% had increased Kanneer (lacrimation) and 10% of cases had Peelai serthal

(mucous excrements). No specific inference could be made from vizhi (eyes) examination.

Malam (faeces)

Among 20 cases, 15% of cases had Sikkal (constipation), 5% of cases had siruthal, 5% of cases had vemmai, and 75% of cases had no abnormality.



Figure 13: Neerkuri (Urine examination).

Among 20 patients, 45% of cases had Colourless urine and 55% of cases had pale yellow/straw coloured urine, 100% of cases had absence of nurai (Froth). All 100% of cases had Normal Specific gravity and odour. Among 20 cases, 85% of cases had Aravam (serpentine fashion), 15% of cases had Aravil mothiram (serpentine in ring fashion). These neikuri patterns indicating the affecting of vatha and pitha humours.

According to Siddha System, human body sustains the state of healthy living via keeping the Three Humours Vatham, Pitham and Kabam in equilibrium, influenced by dietary habits, daily activities and the environment around. The three humours represent the five basic elements or boothas. If this equilibrium is disturbed, it leads to a condition known as disease. The prevalence and pattern of Thyroid disorders depend on sex, age, ethnic and geographical factors. Research shows that hypothyroidism can contribute to morbidity from Osteoporosis, Hyperlipidemia, Hypercholesterolemia, Cardiovascular and Neuropsychiatry disease in the population.^[7]

The analysed Sage Yugi's literature showed that the stress was an aggravating factor for not only the skin disease but also for systemic disorders like hypothyroidism. Manikkadai Nool results threw up a narrow identifiable range (9½-10 ½ fbs) for *Kanda karappan*. So with all the symptomatology and the observed results, a clinician can derive new diagnostic criteria for the disease *Kanda karappan*. Further through this observational study, it was found that the of *Kanda karappan* mentioned by Sage Yugi in his text under *karappan* disease classification symptoms presented by the patients were those of a constant subset of symptoms of hypothyroidism explained in the present day classification and all the selected cases had the deficient status of thyroid hormone level. As per the study the concept to avoid *karappan* foods matches with the concept of avoiding goitrogenic food items for hypothyroidism prevention.

CONCLUSION

This observational study concludes that *Kanda karappan* may not necessarily be a *karappan* lesion exclusively occurring over the *kandam* (neck region) but may be due to some pathologic alterations in the three humours, and can be well correlated to the thyroid glandular disorders which produces the associated *Karappan* (skin lesions) over the body. Analysis of signs and symptoms of *Kanda karappaan* reveals that it lies in parallel with the Hypothyroidism. The Siddha diagnostic tools like Manikadai nool, Neikuri findings and food habits may help in the identifying of preponderance in a person to develop *Kanda karappan*.

ACKNOWLEDGEMENT

The author would like to express her sincere gratitude to professor Dr.D. Rajasekar M.D, Head of the department, Sirappu maruthuvam, Santhigiri Siddha medical college, Santhigiri, Trivandrum, Kerala district for his continuous support and guidance for conducting this study.

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