



INFLUENCE OF FOOD HABITS ON *Kushta roga* (SKIN DISEASES)

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AUTHORS' CONTRIBUTIONS

This work was carried out in collaboration between both authors. Author SLK designed the study, wrote the protocol and wrote the first draft of the manuscript. Author DALM supervised and managed the analyses of the study. Both authors read and approved the final manuscript.

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ABSTRACT

The study was carried out in Ayurveda National Hospital, Sri Lanka during the period of October 2017 to June 2018, to detect whether the diet pattern of an individual has any considerable effect on *Kushta roga*. The patients (n=50) who visited the hospital for the treatment of *Kushta roga* was selected randomly for the test group. The age and number matching healthy individuals were selected as the control group. Data was collected from both study group and control group with a questionnaire which included the questions on demographic data and food habits. The results of the study confirmed that the *Kushta roga* was more prevalent among, female gender around the age group of 50 – 60 years. Also found that the frequent ingestion of food items like mango, pine apple, tomato, *achcharu*, tinned fish, prawns, *bala malu*, cuttle fish and curd had a strong effect on *Kushta roga*. Foods which have pharmacodynamics properties like madhura rasa (sweet taste), *guru* (heavy), *snigdha* (unctuous) and *ushna* (hot in nature) *ushna virya* (hot potency) *Madhura vipaka* had a significant effect on *Kushta roga*. Thus, the study establishes that there is a link between Diet and *Kushta roga*. Therefore, it is much important to have diet modification to be free from skin diseases. Finally, the outcome of this study could be a platform for other researchers to continue further studies throughout Sri Lanka.

Keywords: Skin; *Kushta roga*; food habits; pharmacodynamics properties.

1. INTRODUCTION

Healthy and attractive skin plays a major role in most individuals' self esteem and is a key component of the image they represent to the outside world. According to the hospital based clinic studies, nearly 47.6% of the Sri Lankans is suffering from Skin diseases (*Kushta roga*) [1,2]. Ayurveda, the science of life and aim of Ayurveda is to protect and maintain the health of the healthy person and to treat the disease and giving relief to sick person. In Ayurveda skin is mentioned as one of the panchendriya. Ayurveda has included skin diseases under one common heading,

Kushta and has pointed at its multifactorial etiology. Unwholesome diet and lifestyle have been implicated as chief factors for the onset, progression and recurrence of many skin diseases [3,4,5]. They can prevent or alter the pathogenesis and affect the prognosis of skin diseases in a positive or negative manner [6,7]. As Ayurveda always consider "Prevention is better than cure", it is better to identify etiopathogenesis of the skin diseases. Though, the *kushta roga* is more prevalent in Sri Lanka, the scientific studies on them are not up to the satisfactory level. Thus, the current study was launched to fill the gap to a certain extent. In the study it was aimed to

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find the role of food habits on *kushta roga*. Thus the objectives of the study were;

To detect the age and sex distribution among *Kushta roga* patients of the study group.

To detect the most common food items which cause *kushta roga* in the study group

With the finding of the study, the community will be made aware of the influence of the diet pattern on *Kushta roga*. Hence it is expected to prevent and reduce the prevalence of *Kushta roga* in Sri Lanka.

2. HYPOTHESIS

Food habits has a significant positive effect on *kushta roga*

3. RESEARCH QUESTION

Is there any relationship between food habits and *Kushta roga*? If so, which type of foods has an effect on the disease?

4. MATERIALS AND METHODS

The study was conducted at Ayurveda Teaching Hospital, Sri Lanka (October 2017 to June 2018). The patients who visited the hospital for the treatment of *Kushta roga* (skin diseases) were selected as the target group. A number of 50 patients were selected for the study on random sample technique according to the

hospital register. Both male and female subjects (ages 10-80 years) were included. The dumb and deaf patients, the patients who were unwilling to participate for the study, the infants and children who were unable to response for the questions, were excluded from the study. The data was collected by the principle investigator using a questionnaire which included the questions on demographic data and food habits of the patients. The consumption of food which consumed at least once in 3 days was considered as a positive response. The data were analyzed using statistical analyzing package.

5. RESULTS AND DISCUSSION

5.1 Sex Distribution

According to the outcome of the study (Fig. 1), it was clear that 62% (31/50) of the patients was female and 38% (19/50) was male. Through the results it is clear that *Kushta roga* is more common in female gender.

5.2 Age Distribution

When considering the age distribution (Fig. 2), it is clear that the majority of the patients 24% (12/50) were within the age group of 50 – 60 years. Only 2% (1/50) of the patients was within the group of age (80 – 90) years and (10-20) years respectively. Thus, the *Kushta roga* is more common in the patients with age 50 – 60 years.

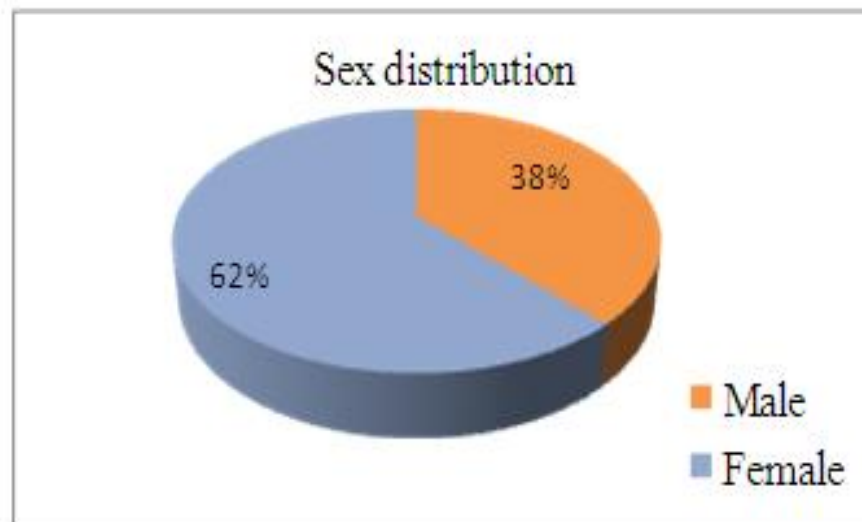


Fig. 1. Sex distribution of the study group

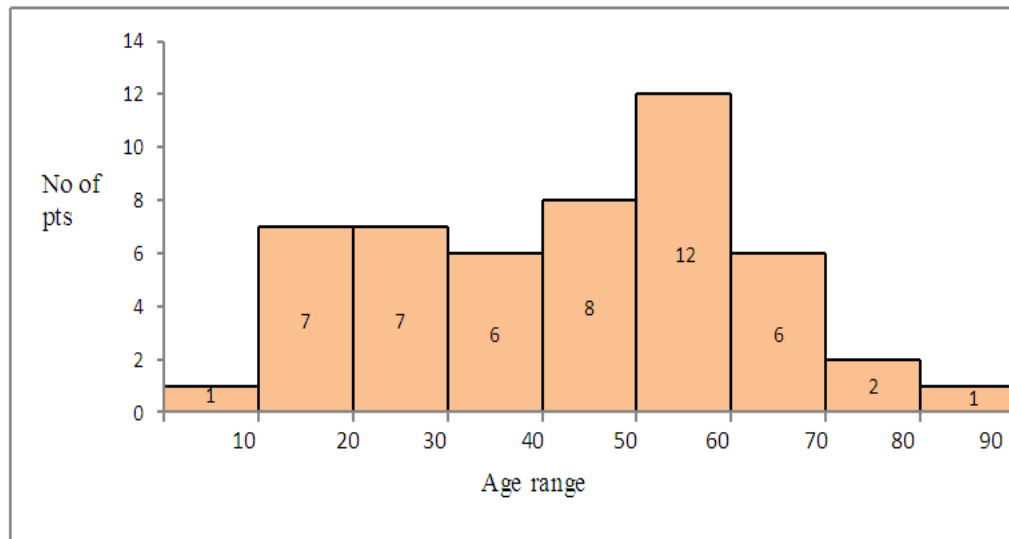


Fig. 2. Age distribution of the study group

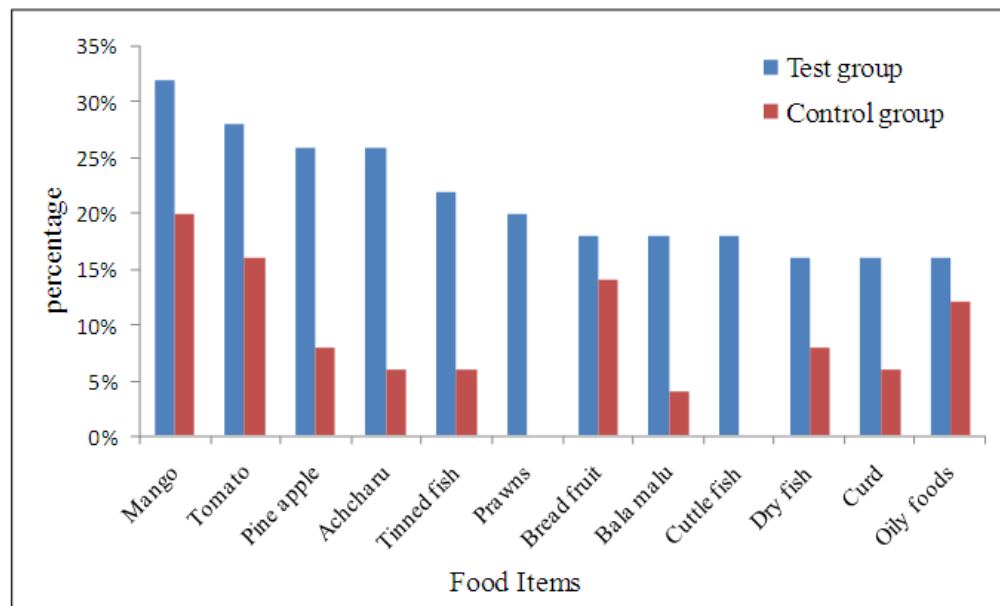


Fig. 3. Frequently consumed food items

5.3 Common Food Items Which Cause *Kushta roga*

Fig. 3 shows the percentage wise consumption of food items by the individuals in the test and control groups. The food item which has been ingested at least once in 3 days was only considered here as a frequent consumption.

According to the result Fig. 3 consumption of food items such as prawns and cuttle fish was prominently

higher in the test group, compare to the control group and was 26% and 18% respectively. When comparing the result of test group with that of the control group it was found to have statistically significant ($P < 0.05$). Thus, frequent consumptions of prawns and cuttle fish have a significant positive effect on *Kushta roga*. Further similar significant positive effect on *Kushta roga* ($P < 0.05$) was found with the frequent consumption of pine apple, achcharu, tinned fish, balamalu and curd. Though the consumption of fruits and vegetables such as mango, tomato and bread

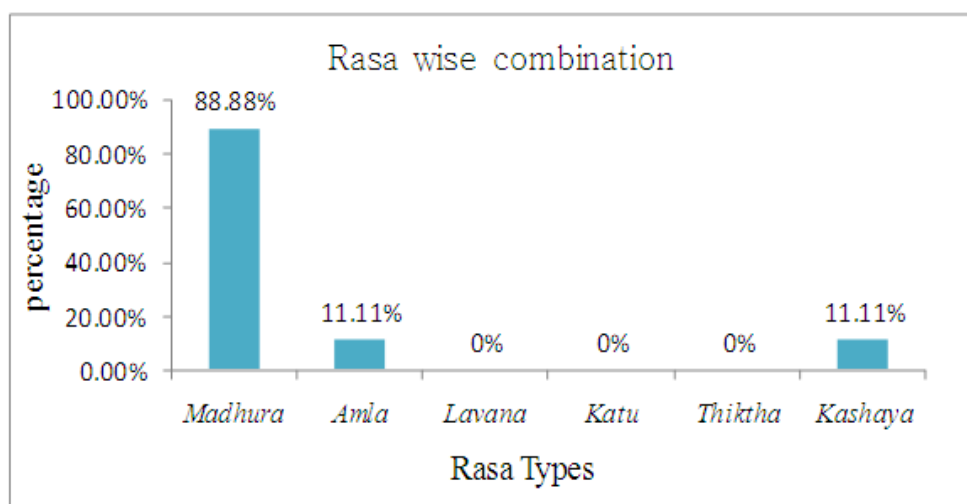


Fig. 4. Rasa wise combination of the food items, consumed frequently by the test group

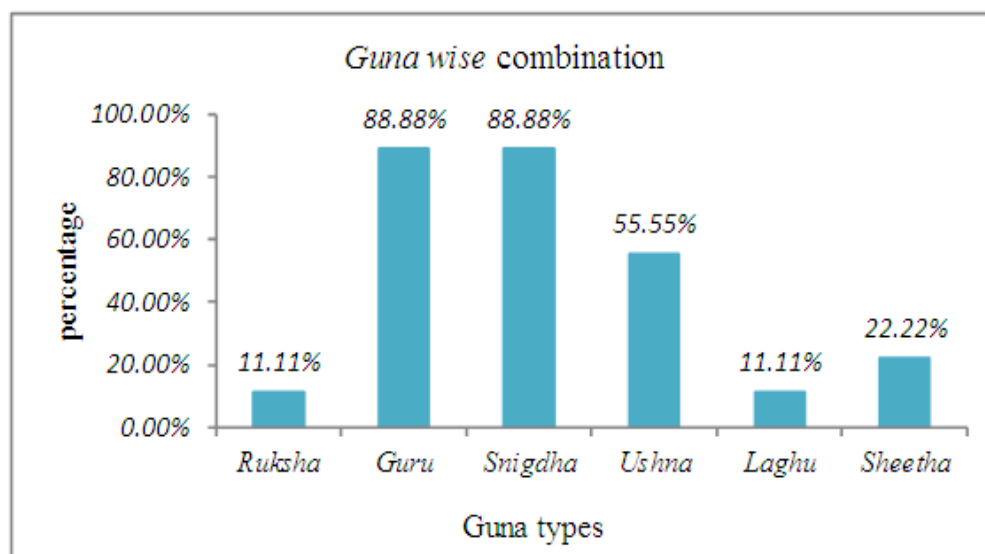


Fig. 5. Gunawise combination of the food items, consumed frequently by the test group

fruits and items such as dry fish were higher in the test group, compare to the test group the difference was insignificant statistically. Thus, those food items have no significant effect on *Kushta roga*. Foreign studies which have been carried out to test the effect of food on skin diseases have detected that there is a link between the two [8,9,10].

5.4 Pharmacodynamics Properties of the Frequently Consumed Food Items of Test Group

According to the Fig. 4, it is clear that majority of the foods (88.88%) consumed by the test group have

Madhurarasa. The foods which had contained the rasa types such as *Amla* and *Kashaya* were same and were 11.11%. Foods which had *lavana*, *katu*, and *thiktharasa* were not found. Thus, *madhura rasa* have the highest positive effect on *Kushta roga*. This is due to the fact that *Madhura rasa* pacifies *vata* and *pittadoshas* while aggravating *kapha dosha*. Therefore, excess use of foods having *Madhura rasa* may aggravate *kapha dosha* and it could lead to the imbalance of *tridosha*.

According to the Fig. 5, a majority (88.88%) of the foods consumed by test group, contains *Guru* and

snigdha properties. Further, more than 50% of the food items was having *ushna* property. Only a few amount of food items (11.11%) was containing *ruksha* and *laghuguna*. Thus, it is clear that *guru*, *snigdha* and *ushna* properties of food have a positive effect on *Kushta roga* while the other two properties are having less influence on *Kushta roga*. This is because of Both *Guru* and *snigdha* properties aggravates *kapha dosha*, while the *ushna* property aggravates *pitta dosha* and *raktha* of the body. Thus, excess use of these foods may cause the vitiation of *pitta*, *kapha* and *raktha* and results in the imbalance of *tridosha*.

Most of the food items were having (66.66%) *ushna virya* and only 33.33% had *Sheetha virya* (Fig. 6). Through the results it is clear that foods which are having *Ushna virya* have more contribution towards the *Kushta roga*. This is because *Ushna virya* results in vitiation of *Pitta dosha* and *raktha dhatu* of the body and it gradually troubles the equilibrium of *tri-dosha*, hence the formation of *Kushta roga*.

Among the food items, 87.5% had *Madhura vipaka* and 2.5% had *Katu vipaka* (Fig. 7). None of the foods had *Amla vipaka*. Through these results it is clear that, foods having *Madhura vipaka* has a great influence on *Kushta roga*.

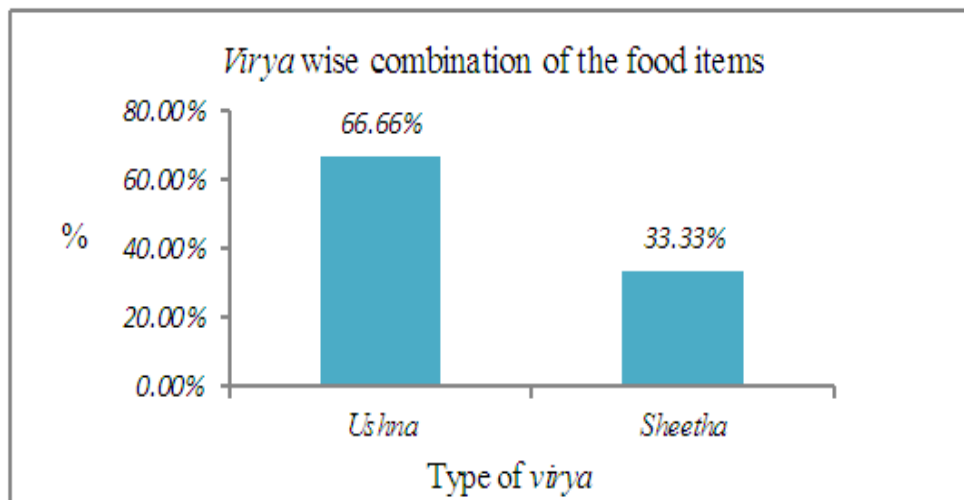


Fig. 6. Virya wise combination of the food items, consumed frequently by the test group

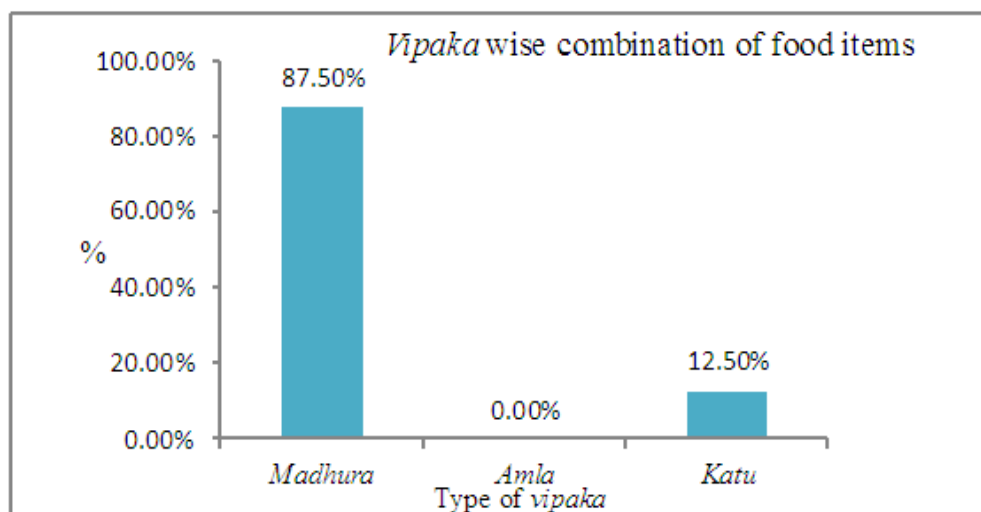


Fig. 7. Vipaka wise combination of the food items, consumed frequently by the test group

6. CONCLUSION

According to the result of the study *kushta roga* is more common in female with the age of 50-60 years. Frequently (at least once in three days) ingestion of foods such as pine apple, achcharu, tinned fish, balamalu, prawns, cuttle fish and curd. Further it was obvious that the food items having *madhura rasa*, *guru*, *snigdha*, *ushna* properties, *ushna virya* and *madhura vipaka* results in the imbalance of *tridosha* and vitiation of *raktha dhatu* hence results in the *samprapthi* of *Kushta roga*. Thus, to avoid the *kushta roga* individuals (mainly female) better to avoid frequent ingestion of above-mentioned foods. Further research should be carried out on the outcome of the present study.

CONSENT AND ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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