



FOX TAIL MILLET(KANGU); AN UPASAYA IN LIFE STYLE DISEASES.

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ABSTRACT-

Objective- To study about Fox tail millet/ Kangu as *Upasaya* in Life style diseases.

Discussion- The quality of Fox tail millet is explained in various Ayurvedic Classics. In this study, I am trying to find out the classical references and its utilization in life style diseases as it is commonly available millet in India as well as North east.

Conclusion- Foxtail millet can helps in life style diseases caused by improper carbohydrate and fat metabolism such as Obesity, Coronary heart disease, Type II Diabetes mellitus, Hypertension etc. The effect of Foxtail millet in Lipid profile and Blood sugar level can be studied clinically to aware people in further study.

Key words- Fox tail millet, *Medovaha srota*, Metaflammation, Carbohydrate metabolism, Fat metabolism, Obesity, Coronary heart disease, *Medoroga*, *Atisthoulya*.

INTRODUCTION-

Kangu/ Fox tail millet/ *Setaria italica Beauv* is 2nd most producing millet in India. This is the only millet cultivated in North east India.

It is one among *Trinadhanya*/ *Kshudradhanya*/ *Kudhanya varga*.¹

It is *Kaphasamak*, *Guru* and *Ruksha*.¹

It is the source of Protein, Carbohydrate, Dietary fibre, Vitamins and Minerals.²

It helps to prevent life style diseases related to *Medodhatu* as well as Carbohydrate and Lipid metabolism by its *Kaphasamak* property.

The study is necessary to aware people about health benefits of commonly available millets.

MATERIAL-

- Literature from Ayurvedic text.
- Literature from Modern text.

DISCUSSION-

TRINADHANYA VARGA:

The *Trinadhanya*(millets) are a group of small seeded species of cereal crops or grain. They do not form a taxonomic group, but a functional or agronomic one.²

Classification-

Trinadhanya Varga includes *Kangu, Syamaka, Nivara, Varaka, Uddala, Nartaka, Varattika, Toda Parni, Kodrava, Madhuluka, Nandimuka, Gobedhuka, Nala, Nali, Mukunda, Varika*.²

According to Vagbhat *Trinadhanya* includes *Kangu, Kodrava, Jurnahva, Gadi, Varunapadika, Syamaka, Toyasyamaka, Madhulika, Antaningandi, Venuparni, Prasantika, Gavedhu, Kandalauhitya, Toya parni, Mukundara*.³

Synonyms- *Kshudradhanya, Kudhanya* and *Trinadhanya*.¹

Properties according to Ayurveda-

Rasa (Taste)- *Kasaya* (astringent)^{1,3,4,5}, *Madhura* (Sweet)^{1,2,3,4,5}

Guna (Physical property)- *Laghu*(light) and *Ruksha*(dry)¹

Virya (potency)- *Ushna*(Hot)^{1,2,4}

Sita (Cold)^{3,5,8}

Vipak- Katu ²

Effect on *Tridosha*- Pacifies *Pitta* and *Kapha*.^{1,3,5} but aggravate *Vata*³

Therapeutic- *Kapha Nasak, Rakta pitta*¹, *Lekhan*², Bowel ^{3,4} urine³ binding.

KANGU:

Kangu is quoted by Vrihat trayi. Caraka and Vagbhata consider it as Cereal. Susruta identified it as two varieties viz *Kangu Dhanya*(Su.Su20/5 and Su.Su46/8) and *Kangu aushadhi*(Su.Su-36/28). Susruta identified *Kanguka* as a variety of *Sastika dhanya* which is also called as *Priyangu*.⁶

Botanical name- *Setaria italica Beauv*⁶

Family- Poaceae⁶

English name- Foxtail millet⁸, Italian millet⁶

Synonyms- *Kangu, Priyngu*¹

Verities- 1. Black/ *Krishna*, 2.Red/ *Rakta*, 3.White/*Sita*, 4. *Yellow/ Pita*⁶

Guna(Physical properties)- *Guru* (heavy), *Ruksha*(dry)⁶

Effect on Tridosha- Pacifies *Kapha*.⁶

Therapeutics- Fracture⁸, used to reduce labour pain¹, apply locally in case of *Amvat*¹

Botanical description⁷-

Habited-Found through out hotter part of India.

Description- It is 3-4 feet tall grass crop. Leaves-12-16 inch long and 0.5 inch breadth.

Flowers long spiky. Fruit/ grains- small round.

It can harvest in 75-90 days

Nutritional constituents per 100 gm⁷-

Protein- 12.3gm

Carbohydrate-60.6gm

Fat- 4.3gm

Crude fibre-8gm

Mineral- 3.3gm

Energy (Kcal)-351

KANGU USE AS UPASAYA IN LIFE STYLE DISEASES:

Life style diseases occurs mainly due to unhealthy diet and lack of physical activity and increased mental stress. The term metaflammation has been used to define as a form of low grade, chronic and systemic inflammation specially for non-communicable diseases (NCD). Metaflammation includes Obesity, Coronary heart disease, Type II Diabetes mellitus, Hypertension, Respiratory problems, Cancer, Depression and Dementia.⁹

Foxtail millet contains protein, carbohydrate, fibre, vitamin B3, B17, B6, B9 and minerals calcium, iron, potassium, magnesium, zinc. It is gluten free².

Carbohydrate diet provides energy to tissue specially brain and erythrocyte in the form of glucose and during exercise glucose is used by muscle also¹⁰. Excess consumption of carbohydrate diet without physical activity causes more storage of glucose in tissues. Consumption of saturated fatty acid and trans fatty acid increases total blood cholesterol, LDL cholesterol, decreases HDL cholesterol¹¹. Therefore, it increases the risk of Coronary heart disease, Obesity and Type II Diabetes Mellitus¹⁰.

Medoroga, Atisthoulya, Prameha are the main diseases of *Medovaha srotas*. Major aetiological factors for *Medovaha Srotagata Vyadhi* are intake of heavy oily food(*Slesmal Ahar*)^{13,14}, sweet food,^{13,14} fatty food¹² and lack of physical activity¹². *Priyangu*/Foxtail millet, *Kora dosa, Syamak, Nivara* etc millets are wholesome diet for *Medoroga/Atisthoulya*^{15,16,17}.

Kangu/ Fox tail millet pacifies *Kapha*, ultimately it will pacify *Medodhatu*. It is *Guru* and *Ruksha*, as it contains more protein and dietary fibre. So, digestion process will be slow. Ultimately there will be less consumption of ordinary diet after consuming Fox tail millet. Coeliac patients can consume Fox tail millet as it is gluten free.

Use of *Kangu* / Fox tail millet instead of using rice or wheat can reduces the chance of improper Carbohydrate and Lipid metabolism as it contains more protein and fibre with carbohydrate. As people avoid physical activities which induces less glucose utilization with more storage of lipid and glucose in tissues.

So, we can say that Fox tail millet can be used as *Upasaya* for *Medovaha Srotagata Vyadhi* except Thyroid dysfunction. It is mild thyroid peroxidase inhibitor⁶.

USE OF FOXTAIL MILLETS IN NORTEAST INDIA:

Fox tail millet is the only millet cultivated in North east India since long back. Now a days production is reduced.

Main occupation of previous era people was cultivation. Those people consumed various recipe of Fox tail millet as breakfast during their work in paddy field.

Now a days, those quality food is replaced by some unhealthy carbohydrate and fat diet. People here in northeast started adopting relaxing occupation without physical activity. Therefore, incidence of Life style diseases are increasing day by day here in northeast.

CONCLUSION-

Kangu/ Priyangu/ Fox tail millets are *Kaphasamak, Medovaha Srotagata Roga Samak*. It is a source of protein, carbohydrate, dietary fibre, vitamin and minerals. Consumption of Fox tail millet helps to maintain balance in carbohydrate and lipid metabolism. Ultimately it can be used as *Upashaya* for various life style diseases related to carbohydrate and lipid metabolism. The effect of Fox tail millet in Lipid profile and Blood sugar level can be studied clinically to aware people in future study.

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