https://doi.org/10.46344/JBINO.2023.v13i01.19

APPLIED STUDY OF SNIGDHA AND RUKSA GUNA ON RASA RAKTAGATA SNEHA (HYPERLIPIDEMIA)

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ABSTRACT

Karya Karana Siddhanta has been explained in Ayurveda treatise. *Karanas* which are defined as cause are required to bring out *Karya* i.e., *Chikitsa* and goal of *Chikitsa* is to attain *Dhatu Samyata*. To bring about *Dhatu Samayata*, *Shatpadarthas (Karanas)* are marked as essential. *Shatpadarthas* have been mentioned as *Samanya*, *Vishesha*, *Guna*, *Dravya, Karma* and *Samvaya*. Among which *Dravya* is *Pradhana* and possesses specific property which are termed as *Guna*. The word '*Guna*' is derived from the *Dhatu* '*Guna Amantrane*', which means it attracts towards itself. In the present article we are discussing regarding the application studies of *snigdha, ruksha* on rasa *rakthagata Sneha*.

Key words: *Guna, Rasa raktagata Sneha*, Hyperlipidemia etc.

INTRODUCTION

Karya Karana Siddhanta has been explained in Ayurveda treatise. *Karanas* which are defined as cause are required to bring out *Karya* i.e., *Chikitsa* and goal of *Chikitsa* is to attain Dhatu *Samyata*. To bring about Dhatu *Samayata*, *Shatpadarthas* (*Karanas*) are marked as essential. [1,2] *Shatpadarthas* have been mentioned as *Samanya*, *Vishesha*, *Guna, Dravya, Karma* and *Samvaya*. Among which *Dravya* is *Pradhana* and possesses specific property which are termed as *Guna*. [3] The word '*Guna*' is derived from the *Dhatu* '*Guna Amantrane*', which means it attracts towards itself.[4] *Guna* entity stands for both physical and chemical property [5] and are classified under various categories as per various Acharyas (Table 1). *Swasthasya Swasthya Rakshana* and *Aturasya Vikara Prashamanam* is the objective of Ayurveda. To attain this objective, *Trisutra* Ayurveda (*Hetu, Linga* and *Aushada*) has been explained. [8] *Guna* entity is considered as the cause of *Vriddhi* of Doshas as well as *Vyadhi* of *Shareera* which depends upon *Trisutra* Ayurveda. In Ayurveda, *Shatpadarthas* (*Samanya, Vishesha, Guna, Dravya, Karma* and *Samvaya*) are responsible for every phenomenon so is termed as *Karanas*. *Guna* is one such entity which has inseparable relation with *Dravya*. Ayurveda affirmed *Tri Sutra (Hetu, Linga* and *Aushada*) as helpful components to treat disease. *Karanatva* of *Guna* depends upon *Trisutra* and there is marked relation between them. [8-9] *Guna* and Tri Sutra Ayurveda *Guna* in *Hetu* is defined as a cause or reason. Synonyms of *Hetu* are mentioned as *Nimitta, Ayatana, Karaka, Karta, Karana, Pratyaya, Samuthanam, Mulam* and *Yoni*. [10] Chakrapani opines that successful treatment depends on proper understanding about *Hetu* of the disease. For Example, Intake of excess of *Madhuradi Dravyas* manifests with *Kaphaja Vikara* due to *Guru*, *Sheeta* and *Snigdha Guna*. To treat the disease the *Nidana* has to be evaluated and avoidance of those *Nidana* i.e., *Nidana Parivarjana Chikitsa* to be adopted as one of the treatment modalities.[11] *Guna* in *Linga* is defined as characteristic or sign. *Linga*, *Akriti, Lakshana, Cinha, Samsthana, Vyanjana* and *Rupa* are mentioned as synonyms. [11] *Lakshanas* are manifested based on increase or decrease in *Gunataha, Dravataha* and *Karmataha* of *Doshas*. [3] For example; Reduction in *Chala Guna* of *Vata* causes *Alpa Chesta* as a symptom. *Guna* in *Aushada* Thorough examination of the patient is the initial step which is followed by planning appropriate therapeutics. [12] Before administration of any *Dravya* in treatment, details of *Dravya* (*Nama, Rupa* and *Guna*) should be known by physician.[13] Each *Dravya* possesses specific property without which it does not have its significance. For example, *Vardamana Pippali Rasayana* possesses *Laghu-Tikshana Guna, Katu Rasa, Madhura Vipaka* and produces Agnideepana, Amapachana, Vatashamaka and Rasayana effect and is marked as drug of choice in Amavata. [14] Gunas are not only helpful in curative aspect even also in preventive aspect. [15] As little fire kindled gradually with grass or cow dung becomes stable so in case of Agni after Shodhana following of

Peyadi Krama makes the Agni to digest all types of food, it is based on Guna Prabhava. Even the Guna Karma of Anna Dravya has also been described in Annapana Vidhi.16 Thus Guna in Aushada as well as in Ahara has its significance. The term Ayurveda, a Sanskrit word, translates into knowledge (*Veda*) of life (*Ayur*); *Veda* also means science. Ayurveda deals with Human body, etiology of disease, herbal-mineral-metal drugs and food items. According to this Traditional Indian thought, all food is medicine because all food affects the body, and the effect of a food (its function) trumps arbitrary classifications based on its origin (its form) when being classified. For the treatment purpose according to Ayurvedic perspective *Gurvadi Gunas* are widely used where the increased elements, i.e., *Gunas* are treated by opposite *Guna*. So, if patient's *Ruksha Guna* is high then it is to be cured by food with *Snigdha Guna* and vice-versa [1,2,3,4]. The functional activity of *Snigdha* food is *Kledana* (moistening), *Mruduta* (softness), *Ardrata* (Malleability) which is supposed to stimulate *Kapha* and *Mala* whereas regulates *Vata*. Likewise, the functional activity of *Ruksha* food is dryness which increases *Vata* and regulates *Kapha*, decreases *Bala*, creates *vaivarnya* (discoloration. properties are rice, *Jawas*, *Teela*, Wheat and *Udeed* wherea s *Ruksha* property food are *Yava, Mudga, Jawar, Chanaka* and *Nachani*. Also, it is assumed that with heat treatments like roasting causes minor change in their properties. Despite the intimate relationship between Ayurvedic *Guna* theory and food, these two subjects are rarely studied to find out precise biochemical mechanism of the interrelation between food and their *Gunas*.

Current nutritional knowledge lays emphasis on macronutrient quantity of food, i.e., protein, carbohydrate and lipids. The nutrients which are released from the food during digestion, only some portion (bioavailable fraction) will be available for their physiological functions or storage in body[5]. The bioavailability of these nutrients depends on the physical properties of the food matrix. Several *in-vivo* or *in-vitro* methods are used to estimate the bioavailability of a nutrient. However, *in-vitro* methods are preferred over *in-vivo* methods since the latter are expensive, difficult to reproduce and ethically controversial[6]. Secondly, it is not completely known which dietary constituents are responsible for medicinal property. influenced by various factors and largely depends on both the composition of the extract and the analytical test system. Therefore, it is necessary to perform more than one type of antioxidant capacity measurements to take into account the various mechanisms of antioxidant action which will give more reliable results. Overall results indicated that samples with *Ruksha Gunas* have better antioxidant potential and can *scavenge the increased reactive oxygen species efficiently* as compare to *Snigdha Guna* samples. Additionally total polyphenolic contents are higher in *Ruksha Guna* which gives further scope to assess the relation between herbal

drugs having *Ruksha Guna* and its polyphenolic contents in more specific methodology. Our results of phenolic contents in various samples are in agreement and supported by Sreeramulu *et al.*[26] where comparative antioxidant activity of commonly consumed samples in India was done. More reducing potential of *Ruksha Guna* drugs indicates its *Khara / Lekhana* action which act as cleansing agent.

According to Ayurveda, heat treatment causes minor alteration in the *Gunas* of sample. This was evaluated in six varieties of rice in raw and roasted forms and results are indicated in Tables 5 & 6. Overall, the roasted rice samples illustrated better antioxidant activity than their normal counterparts.

Ayurveda believes that when roasted, property of sample changes, i.e., it becomes less *Snigdha* in case of samples with *Snigdha* property and more *Ruksha* in case of samples with *Ruksha* property. This was evaluated in six varieties of rice in raw and roasted counterparts. In case of local rice, we found that roasted sample was demonstrated higher antioxidant potential in all assays in both aqueous and methanolic extracts. Almost similar results were evident for other rice varieties where roasted forms indicated antioxidant activity in almost all assays in both the extracts. However, in *Raktashali* variety, sample with *Snigdha* property have shown more antioxidant potential than the roasted form in methanolic extracts and in aqueous extract sample with *Ruksha* property showed highest activity in most assays. These conflicting results in different extracts maybe due to differential extraction of the bioactive molecules in the water and methanol due to variation in polarity of the solvents. Ayurveda has stated *Raktashali* and *Shashtishali* are most healthy dietary food and advised in healthy as well as diseased conditions. Collective analysis of raw and roasted rice samples

Erythrocyte protection in presence of samples

The *Snigdha* and *Ruksha Gunas* of food samples were further evaluated at cellular level using erythrocyte exposed to oxidative stress. The results of various cellular antioxidant parameters, i.e., catalase, FRAP and GSH showed that samples with *Ruksha* property are better in protecting erythrocytes from oxidative damage than *Snigdha* samples. The levels of catalase and total cellular antioxidant potential was higher and lipid peroxidation is found less in erythrocytes treated with *Ruksha* samples than with *Snigdha* samples It indicates *Ruksha Guna* shows cell membrane protection may be due to absorption of excessive accumulation obstructing the micro channels. Thus, it leads to proper circulation of nutrients in body. Surprisingly the levels of GSH were significantly higher in *Snigdha* samples treated erythrocytes as compared to *Ruksha* samples. In H_2O_2 exposure, more reactive oxygen species will act on cell membrane causing membrane lipid peroxidation and decrease in cellular enzymatic and non-

enzymatic antioxidants. It can be inferred after the analysis, that the samples with *Ruksha* property were better in protecting erythrocytes than samples with *Snigdha* property. These results support above findings where collective antioxidant potential of *Ruksha* samples was higher. From the biochemical point of view, it can be concluded that scavenging (Lekhana) of free radicals which were causing cellular damage was more in extracts of *Ruksha* samples. Ayurveda believes that when roasted, property of sample changes, i.e., it becomes less *Snigdha* in case of samples with *Snigdha* property and more *Ruksha* in case of samples with *Ruksha* property. This was evaluated in six varieties of rice in raw and roasted counterparts. In case of local rice, we found that roasted sample was demonstrated higher antioxidant potential in all assays in both aqueous and methanolic extracts. Almost similar results were evident for other rice varieties where roasted forms indicated antioxidant activity in almost all assays in both the extracts. However, in *Raktashali* variety, sample with *Snigdha* property have shown more antioxidant potential than the roasted form in methanolic extracts and in aqueous extract sample with *Ruksha* property showed highest activity in most assays. These conflicting results in different extracts maybe due to differential extraction of the bioactive molecules in the water and methanol due to variation in polarity of the solvents.

Dravya means substratum which possesses both Karma and Guna. Independently Guna doesnot have its existence. Guna forms the underlying source of principles and shows marked relation with Trisutra Ayurveda. Sartha Guna shows its significance in Roga Rogi Pariksha, Dravya Pariksha and Chikitsa. Without Paradi Guna Chikitsa cannot be performed in a desired manner. Paradi Guna hold basis for proper arrangement by selecting and identifying drugs and the proper application of therapy. Knowledge of Gurvadi Guna is essential in accessing Nidana Panchaka of disease to prolong the wellbeing of person and can also be considered as one of most important aspect of diagnosis, prognosis and treatment of disease. Prayatnadi Guna signifies the physical and mental status of person. All of these Guna when synergistically applied by Karta then become Karana for Dhatusamya. With the mere observation of fundamentals, interrelation of Guna and Trisutra Ayurveda is appreciably signified which is required in normalcy of body constituents and management of diseases.

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