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REVIEW OF MRUDVIKA - AN AYURVEDIC AND MODERN PERSPECTIVE

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ABSTRACT Mrudvika (*Vitis vinifera* Linn.) commonly known as raisins has been highly valued in Ayurveda for its nourishing (brumhana), cooling (sheeta), and strengthening (pushtikara) properties. Classical texts describe its efficacy in conditions such as jwara (fever), pandu (anemia), prameha (diabetes) and raktapitta (bleeding disorders). Modern nutrition identifies raisins as energy-dense dried fruits rich in natural sugars, dietary fiber, essential minerals, vitamins, and phytochemicals. Contemporary research highlights their roles in antioxidant defense, cardiovascular protection, glycemic regulation and oral health. This review aims to integrate Ayurvedic references with modern scientific evidence, reaffirming the therapeutic potential of mrudvika as a functional food in management and prevention of lifestyle related disorders.

KEYWORDS : Ayurveda, Mrudvika , Raisins

INTRODUCTION

Ahara plays a central role in health maintenance according to Ayurveda, being considered one of the Traya Upastambha (three pillars of life).[1] Fruits are nature's medicines rich in vitamins, minerals, antioxidants, and diverse phytonutrients. Their appeal lies not only in their vibrant colors and delightful flavors but also in their distinctive nutritional profile which supports overall health and fitness.[2] As per the Ayurveda Pharmacopoeia of India, it comprises the dried mature fruits of *Vitis vinifera* Linn.[3] The fruit is praised in Ayurveda as foremost among fruits, categorized under nitya rasayana dravyas.[4]

Raisins are among the most widely consumed dried fruits valued for easily digestible fiber and rich content of phenolic compounds, vitamins, minerals and natural sugars.[5] Studies confirm their effectiveness in reducing cardiovascular risk factors regulating glycemic control improving gut health and protecting oral cavity.[6]

Aim

To review mrudvika from ayurvedic literature and modern scientific research.

Objectives

1. To analyze Ayurvedic references of mrudvika regarding its rasa, guna, veerya and vipaka.
2. To analyze the nutritional profile of raisins including carbohydrates, vitamins, minerals and trace elements from modern perspective
3. To assess scientific evidence on its role in major health domains

MATERIAL AND METHODS

Ayurvedic references were collected from Charaka Samhita, Bhavaprakasha Nighantu, Raj Nighantu, Kaiyyadeva Nighantu and Dhanvantari Nighantu. Commentaries and Dravyaguna texts were also referred. Modern literature was compiled using PubMed, Scopus, Google Scholar and nutritional databases. Research articles, reviews and clinical trials were included.

Historical Review of Draksha[4]

Draksha were known since the Vedic period. In the Atharvaveda, draksha is mentioned under the name Krushana for rajayakshama, kilasa and palita. Kautilya's Arthashastra (4th century BCE) describes suitable lands for grape cultivation and recognizes its properties such as balya, pustikaraka, sukravardhaka, mamsavardhaka, and rasa posanakara.

Grapes were introduced to India by Persian invaders around 1300 CE and later spread to Daulatabad, Aurangabad, during Sultan Muhammad-bin-Tughalk. Ibn Battuta (1430 CE) documented flourishing vineyards in the deccan, while missionaries introduced then to salem and maduraj districts in 1832 CE. In the early 20th century, the Nizam of hydrabad further promoted grape cultivation.

Classical References

1. Charaka Samhita describes mrudvika as bruhmana (nourishing), vrushya (aphrodisiac), madhura (sweet), snigdha (unctuous), and sheetala (cooling).[7]
2. It is included in formulations such as bruhmana gutika, useful for tissue building and strength.[8]
3. In Bhavaprakasha nighantu mentions that in case of draksha , bael fruit, haritaki -dried fruits are better than fresh and describes two types of draksha- black and green.[9,10]
4. Raj Nighantu describes four types of draksha – bala, taruna, vruddha, and pakvottama (dried). The dried form is truptikara (satisfying), pushtikara (nourishing), and shramahara (relieves fatigue).[11]

Table 1. Ayurvedic Properties of Mrudvika [9,12,13,14]

Parameter	Description
Rasa	Madhura (Sweet)
Veerya	Sheeta (Cooling)
Vipaka	Madhura (Sweet)

Classical Indications[15]

1. A preparation containing madhuka, musta , mrudvika ,kashmari, parusaka, trayamana, ushira, Triphala and katukarohini soaked overnight in water is benefical in reducing fever.
2. Decoction of vasa, mrudvika and haritaki taken with sugar and honey is beneficial in fever, cough, dyspnea and bleeding disorders.
3. In kamala, gulma, pandu, jwara, prameha and udara roga old ghee processed with paste of Mrudvika is used.
4. Combination of mruvika, sarkara and amalaka is recommended for relieving dizziness and excessive thirst.
5. A formulation containing the roots of danti , dravanti together with maricha, vishwabheshaja ,mrudvika , chitraka is processed by soaking in gomutra for 7 days followed by drying and powdering . This preparation is considered effective in disorders arising from kapha and pitta aggravation.
6. An infusion prepared using madhuka flowers ,mrudvika ,tiktaka , triphala and gambhari indicated in the treatment of all types of fevers

Modern Review

Nutritional Profile

Table 2. Nutritional components of black and golden raisins (per 100 g) [16]

Nutrient	Black Raisins	Golden Raisins
Protein (g)	2.57 ± 0.20	2.76 ± 0.26
Fat (g)	0.34 ± 0.02	0.35 ± 0.03
Carbohydrate (g)	71.29 ± 0.48	68.79 ± 1.0

Energy (kJ)	1279 ± 12	1241 ± 16
Calcium (mg)	73.24 ± 5.48	51.83 ± 5.26
Iron (mg)	6.81 ± 0.31	4.26 ± 0.60
Sodium (mg)	10.99 ± 1.71	10.16 ± 0.04
Potassium (mg)	1105 ± 145	913 ± 59.9

Overall, black raisins are richer in carbohydrates, energy, calcium, iron and potassium, making them more nourishing (Brumhana) and suitable for conditions of debility and anemia. Furthermore, black raisins contain higher antioxidant levels due to their polyphenol and anthocyanin content, whereas golden raisins, though slightly higher in protein, are treated with sulphur dioxide during processing, which reduces their antioxidant potential. Therefore, black raisins are preferred over golden raisins for health-promoting and therapeutic purposes.

Phytochemical Composition

Raisins contain abundant bioactive phytochemicals including flavonols (quercetin, kaempferol), catechin, epicatechin and phenolic acids (caftaric, coutaric). The drying process enhances some phytochemicals, leading to the presence of protocatechuic acid absent in fresh grapes. These compounds are associated with free radical scavenging, anti-inflammatory effects and modulation of signaling pathways relevant in chronic diseases.

Polyphenolic compounds in raisins are metabolized into bioactive derivatives in the human gut, contributing to antioxidant defense and microbiota regulation.[17]

Antioxidant Properties

Oxidative stress occurs when free radical production exceeds the body's antioxidant defenses, often due to pollution, smoking, diseases or intense activity. Antioxidants like copper, selenium, zinc, and vitamins help stabilize free radicals and prevent damage. Raisins are rich in phenolic compounds that enhance antioxidant capacity without affecting taste. Key compounds include phenolic acids, resveratrol, catechin, epicatechin, quercetin, kaempferol, myricetin, and anthocyanins. These provide strong free-radical scavenging and enzyme-inhibitory activity.[5]

Studies have demonstrated that raisins possess one of the highest total phenolic contents among solid foods exceeding tarhana, dried black plum, dried apricot, red grape, fresh paprika, grape, paprika paste, fresh black plum, urtica sp., cherry, paprika pickle, and fresh apricot.[4]

Cardiovascular Health

Raisins are rich in polyphenols with strong antioxidant and anti-inflammatory effects that protect against CVD. They reduce oxidative stress, LDL oxidation, and vascular inflammation.

In hyperlipidemic patients, raisins in a mediterranean diet lowered total cholesterol by 13% and LDL by 16%.When combined with nuts, daily intake further reduced cholesterol and LDL by 9% and 15%.They also decreased inflammatory markers like TNF-α and ICAM-1, slowing plaque formation. Regular raisin consumption thus improves lipid profiles and offers cardioprotective benefit. [17]

Diabetes and Glycemic Control

Raisins, with a low glycemic index, are rich in phenolic compounds that reduce oxidative stress, improve insulin sensitivity and lower T2D risk. They decrease postprandial glucose and insulin responses, especially in those with impaired fasting glucose.

Clinical trials show raisin intake lowers HbA1c and post-meal glucose more effectively than alternative snacks. Regular consumption is linked to a 19% lower T2D risk compared to fruit juice. Studies also show improved glycemic control when consumed before exercise. Hence, raisins represent a safe snack option for diabetics**.**

Colon and Gut Health

Raisins improve bowel function by increasing fecal bulk and decreasing transit time. Enhanced production of short-chain fatty acids (SCFA) such as butyrate promotes mucosal integrity and reduces colon cancer risk .Their tartaric acid supports colonic motility. Polyphenols act as prebiotics, enriching beneficial gut bacteria like bifidobacteria and lactobacilli while suppressing pathogenic strains.

Dental Health

Raisins stickiness and natural sugars have created a false belief that they cause dental cavities. However, new research contradicts this old assumption. Dental caries mainly develop due to three factors: reduced oral pH, food sticking to teeth, and bacterial plaque formation. When consumed alone , raisins neither lower oral pH to harmful levels, nor stay long on teeth and they also contain antibacterial antioxidants. They may even protect oral health, as their phytochemicals suppress bacteria linked to cavities and gum problems.[6]

DISCUSSION-

Mrudvika is described in Ayurveda as brumhana (nourishing), madhura rasa (sweet), sheeta veerya (cool potency) and snigdha guna (unctuous), properties that emphasize its systemic strengthening effect. Classical texts prescribe it in pandu (anemia), prameha (diabetes), hrudroga (cardiac disorders), raktapitta (bleeding disorders) and arsha (piles).

Modern findings provide strong validation of these claims its iron content supports hematinic action in anemia . Dietary fiber explains its role in constipation and piles and a low glycemic index and phenolic compounds substantiate its use in diabetes. Polyphenols with antioxidant and anti-inflammatory effects confirm cardioprotective benefits and vitamin c with antioxidant activity supports its application in bleeding disorders. This correlation establishes that the traditional Ayurvedic description of mrudvika is strongly supported by current nutritional and biomedical evidence.

CONCLUSION

Mrudvika is described in Ayurveda as nourishing, strength-promoting and rejuvenative with therapeutic application in metabolic and nutritional disorders. Modern science confirms these attributes highlighting its role in improving hemoglobin supporting gut health, regulating glycemic response and protecting cardiovascular systems. The convergence of classical wisdom and contemporary evidence establishes mrudvika as a functional dietary agent with preventive and therapeutic relevance. In the present era of rising lifestyle-related disorders, it exemplifies the timeless principle of food as medicine and reinforces the value of integrating Ayurvedic dietary concepts into modern health care.

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