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A Brief Report

Practical Dietary Recommendations of Persian Medicine for Pruritus: A Brief Review

Running Title: *Dietary Recommendations of PM for Pruritus*

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Abstract

This paper is a brief review of the practical dietary recommendations of Persian Medicine (PM) in the management of itching. According to our findings, PM scholars believe that the following dietary modifications help ameliorate pruritus: relative reduction of food intake, consuming tenuous foods, consumption of sweet-and-sour foods, whether natural (e.g., pomegranate juice) or man-made (e.g., oxymels), substances with astringent property, narcotics and quasi-narcotics such as a combination of dry coriander and sugar, using a group of substances called fine-humor-producing foods, laxative fruits such as tamarinds and plums, foods with sedative action including lettuce extract, watery foods containing ingredients such as barley, and increasing the share of healthy fats in the diet.

Keywords: Traditional Persian Medicine, Antihistamines, Anti-inflammatory Materials, Opioid Receptor Antagonists, Antipruritic.

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Introduction

Pruritus is a dermatological symptom associated with numerous diseases. Different pathways within and outside the central nervous system cause itching. Currently, antihistamines, anti-inflammatories, immunosuppressants, μ-opioid receptor antagonists, antidepressants, antiepileptic drugs, and thalidomide are used to treat itching depending on the patient's condition and disease severity (1,2).

Persian Medicine (PM), is a prominent division within the realm of traditional medical systems. This medical school embraces the collective medical knowledge of ancient Persia and Medieval Persia up to the modern period. The authors of this medical school have employed a humoral and experience-based approach in the field of maintaining health and treating diseases (3). In PM literature, itching is divided into exogenous and endogenous categories. Exogenous pruritus is caused by exposure to an external irritant. Avoiding the causative agent is the first step in treatment, followed by the use of local anti-inflammatory, and sometimes quasi-narcotic drugs such as coriander extract (4,5). In contrast, endogenous itching is caused by various internal factors that bring pruritus-causing substances to the skin. The first step of treatment in such cases is drawing blood via blood-letting, wet cupping, or leech therapy. The second step consists of diet therapy, and the third step is the use of oral and topical medications (5,6).

Methods

This study is a literature brief review of selected content from PM books based on content analysis. Based on the theoretical sampling method, the process began with the book Canon of Medicine (Al-Qanun fi al-Tebb), by Avicenna. The keyword "Hekkeh" was searched in this book. After the categorization of data, sampling from other relevant books was conducted. To enhance the validity of the study findings, a diverse range of data sources were carefully chosen for extraction, leading to a form of triangulation within the data. This approach ensured that any information contradicting the initial data was not overlooked. Subsequently, PubMed and SID databases were searched utilizing the keywords itching and pruritus, and relevant information was collected. Evidence related to the obtained data from PM sources was also searched with appropriate keywords. Finally, content analysis was performed.

Results

Dietary strategies that help relieve itching and prevent recurrence include the following:

A. Relative reduction of food intake: According to PM literature, relative reduction in the amount of food, and also consuming tenuous foods can reduce the severity of itching. This is one of the best nutritional measures, provided that it does not lead to weakness (5). In an animal study, Alhadeff et al. demonstrated that hunger can inhibit pruritus of various etiologies via neurons in the hypothalamus and the degree of this inhibition depends on the severity of hunger (7).

B. Sweet-and-sour foods: Sweet-and-sour foods, whether natural (e.g., pomegranate juice) or man-made (e.g., oxymels), are among the most suitable foods for the management of itching. According to Iranian scholars, these substances help eliminate

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causative substances from the site by opening pores and channels and improving circulation (5,6). Oxymel is a type of syrup prepared by boiling a combination of honey or sugar with vinegar (8). A study by Nakhaie et al. has revealed that vinegar can ameliorate uremia-induced pruritus (9). Moreover, there are numerous studies on the anti-inflammatory effects of vinegar (10), and the anti-inflammatory and antihistamine effects of honey (11). Several studies have demonstrated significant anti-inflammatory properties for pomegranate juice (12).

C. Astringent substances: According to PM, foods with light, volatile components that are separated upon ingestion, are classified as Mobakher (meaning vapor-producing) and and have the potential to result in undesirable effects like pruritus (5). This concept is reminiscent of foods containing biogenic amines and polyamines, such as fish, meat, cheese, vegetables, and wine, which can provoke adverse reactions in the body, including allergies and itching (13). PM scholars believed that some substances with astringent property prevented the adverse reactions induced by Mobakher foods. Pomegranate juice and ground barley/wheat with sugar are examples of such astringent substances (5). Studies have shown that phenolic compounds contribute to astringency (14). Astringent substances probably induce these effects against Mobakher foods via exerting anti-inflammatory and antihistaminic activities (15).

D. Narcotic and quasi-narcotic compounds: Among compounds that are used to ameliorate severe itching, are narcotics and quasi-narcotics, such as a combination of dry coriander and sugar, as well as lettuce extract. Additionally, dry coriander and sugar combination is mentioned as a compound that inhibits the vapor-producing effect of Mobakher foods (5). Studies have shown that lettuce can efficiently relieve pruritus via pathways such as stimulation of opioid receptors (16). Coriander may also help control itching by modulating opioid pathways (17).

E. Fine-humor-producing foods: PM scholars consider the four humors as precursors of organs and tissues and foods as precursors of humors. Fine-humor-producing foods are edibles that are not associated with any adverse changes in organs and tissues. Examples of these foods include pomegranate, barley, sweet almonds, chickpeas, jujubes, lettuce, sesame seeds, and pumpkins (18).

F. Laxatives: Laxative fruits such as tamarinds and plums, used as aqueous extract or as condiments are often recommended (5). No study has investigated the effect of laxatives on itching, to our knowledge. Nevertheless, research has shown the simultaneous occurrence of itching and constipation with stimulation of peripheral opioid receptors, and the improvement of both symptoms by opioid antagonists (19).

G. Sedatives: One of the effective measures in the management of itching is the use of sedatives, including lettuce extract (5). It is possible that the central H1 receptor pathway can explain the relationship between sedatives and relief from itching (20).

H. Soups and boiled foods containing anti-inflammatory compounds: Watery foods containing ingredients such as barley, mung beans, chickpeas, lentils, sweet almonds, non-spicy vegetables such as spinach, purslane, lettuce, chicory, pumpkin, tamarind, plum, pomegranate, sumac, unripe grapes, sweet almond oil, sesame oil, water extract of wheat bran, and goat meat or chicken are recommended for itching. The final taste of the food should be sweet-and-sour or tasteless (called Tafeh in PM). The final taste of food should not be sour, sweet, salty, bitter, or pungent (5).

I. Increasing the share of healthy fats in the diet: These include oils such as sweet almond oil and sesame oil (5). Malakouti et al., found these two oils to have a positive effect on the prevention of itching in striae, which can be a starting point for the investigation of other pruritic diseases (21). However, the role of some types of fat in the occurrence of itching and inflammation should be acknowledged (22).

Table 1 shows the mechanisms of action of foods recommended to control pruritus, according to PM sources and current evidence.

External and internal triggers of itching in PM literature include: sunlight or any intense light, temperature extremes (extreme cold or extreme heat), fever, dust, trauma, wind, consumption of foods that induce itching, insomnia, sexual intercourse, menstrual disorders, indigestion, intense physical activity (even excessive talking), fatigue, low humidity, seasonal changes, depressed mood (stress and sadness), anger, constipation, oversleeping, overeating at night, excessive bathing, vomiting, and wearing red-colored clothes (5)

Table 1. Most frequently mentioned foods in PM literature for the management of pruritus, along with possible mechanisms of action.

Recommended food	Form of use	Mechanism of action	
		Persian Medicine	Current evidence
Oxymel *(5,24,25)*	Beverage	Deoppilant (opening of pores) (25) Anti-inflammatory (23)	*Vinegar:* amelioration of uremic itching (9), anti-inflammatory (10) *Honey:* anti-inflammatory, antihistamine (11)
Whey protein *(4,5)*	Beverage	Anti-inflammatory (25)	Anti-inflammatory, antioxidant (26)
Pomegranate (5,6)	Aqueous extract, syrup, added to food	Astringent (6,25), Anti-inflammatory (24)	Anti-inflammatory, antioxidant (12)
Barley (25,27)	Barley water, added to food	Anti-inflammatory (23,28)	*Barley water:* anti-inflammatory (28) *Barley:* anti-inflammatory (29)
Tamarind (5,25)	Aqueous extract, syrup, added to food	Anti-inflammatory, laxative (5,25)	Anti-inflammatory, modulation of opioid pathways (30)
Plum (5)	Aqueous extract, syrup, added to food	Anti-inflammatory, laxative (4)	Anti-inflammatory, antioxidant (31)
Unripe grape *(5)*	Aqueous extract, syrup, added to food	Anti-inflammatory (25)	*Anti-inflammatory (32)*
Jujube (27,3)	Aqueous extract, syrup, added to food	Anti-inflammatory (5,6)	Antioxidant, immune regulation, anti-allergy, sedation, anti-inflammatory (33)
Diluted yogurt *(4,6)*	Beverage	Anti-inflammatory (5)	Anti-inflammatory (34)
Coriander (4,5)	Aqueous extract, added to food	Anti-inflammatory, narcotic (25)	Modulation of opioid pathways (17)
Lettuce (5)		Anti-inflammatory, narcotic (5)	Modulation of opioid pathways (16)

Foods that can trigger itching according to PM sources are summarized in **Table 2**. Current studies have reported some of these compounds to cause pruritus or allergies. These include foods containing biogenic amines and polyamines, such

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as fish, meat, cheese, vegetables, wine (13), psyllium (35), garlic (36), eggplants (37), beef (38), spicy foods (39), and salted and smoked fish (40).

Table 2. Foods that trigger pruritus

Forbidden foods	Example
Foods with a very cold temperament (5)	Animal intestines, Plantago seeds, peas
Mobakher foods* (25)	Fish, meat, cheese, vegetables, onion, garlic, leeks, broad beans, and wine
Hard-to-digest and compact-textured foods (5)	Cabbage, lentils, eggplant
Meat of large, old, and non-domesticated animals (5)	Cow, camel
Spicy food (5,27)	Mustard-laden food
Salty or salted-down food (5,27)	Salted-down fish
Very sour food (5)	Vinegar
Raw fruits (5)	Raw olive
Fermented or leftover food (4,5)	Smoked fish
Sweet food, especially those containing flour and oil (5,27)	Dates, all types of *Halva* (Persian confectionery made from flour, sugar, water, nuts and oil/fat)

* Mobakher (vapor-producing): foods with light, volatile components that get separated when consumed, leading to unpleasant symptoms such as pruritus (4).

An important point to consider is that the effect of nutrition in some types of pruritus depends on primary treatment recommendations, i.e., drawing blood. Hence, neglecting the steps of treatment may cause poor response to nutritional modifications (5, 6). For example, in the book Kholasa al-Tajarob (A Summary of Experiences), Bahaoddoleh Razi stated: “Drawing enough blood from the vein between the index and middle fingers of both hands, helps treat chronic itching (27)”.

In cases where endogenous pruritus is a symptom of an internal disease, it requires additional interventions to correct the underlying cause. Iranian scholars have specified the liver, stomach, uterus, kidney, and brain as crucial organs, the diseases of which can manifest as itching (5, 6).

Naturally, treatment of itching in such conditions depends on treating the underlying cause. Accordingly, treating indigestion, as the most important cause of itching, especially in middle and old ages, is emphasized in PM literature (5).

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