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Lifestyle Recommendations for Management of Pediculosis from the Viewpoint of Persian Medicine

Mina Maarefvand[1,2,3], Hoorieh Mohammadi Kenari[1,2]* and Elham Akhtari[1,2]

[1]Research Institute for Islamic and Complementary Medicine, Iran University of Medical Sciences, Tehran, Iran
[2]School of Persian Medicine, Iran University of Medical Sciences, Tehran, Iran
[3]Student Research Committee, Iran University of Medical Sciences, Tehran, Iran

Abstract

Introduction: Pediculosis Capitis (head lice infestation) is the most common disease of the bloodsucking insect whichaffects approximately six to twenty million cases and results considerable economic burden annually.

In this study we aim to investigate some medieval Persian views on the role of non-pharmacological treatment strategies for prevention and control of pediculosis and compare their prescriptions with current findings.

Materials and methods: In this qualitative study, we reviewedsome well-known Persian medicine (PM) textbooks based on the selected keywords (Shepesh, Reshk, Ghamal and Seyban) to collect the viewpoint of PM scholars for pediculosis and its treatments. Also, we searched in the databases such as PubMed, Science direct and Scopus about the topic.

Results: Persian medicine scientists believed that there are six essential health principles (SetteZaroorieh), which can affect human health and prevent diseases including air, nutrition, exercise, sleep and wakefulness, exertion of unnecessary materials from the body and finally psychological concepts. Proper management of these essential factors can improve lifestyle of people affected with pediculosis and also play a key role in prevention of head lice infestation.

Conclusion: There are several suitable recommendations for prevention and control of pediculosis according to essential health principles in PM which can consider beside current drug treatments and the individual health recommendations for complete control of the disease.

Keywords: Persian medicine; Lifestyle; Pediculosis; Lice infestations

Correspondence to: Hoorieh Mohammadi Kenari, Assistant Professor of Persian Medicine, Iran University of Medical Sciences, Behesht St. Vahdat Islami St. Tehran, Iran, Tel: +98-21-55639667; E-mail: mohammadikenari.h@iums.ac.ir

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Introduction

The public health is basically important in all societies and it has always focused the health authorities' attention to the problems faced by diseases, one of the human society's health challenge is the existence of external parasites which pediculosis is an important worldwide community health problem among them [1].

Pediculosis Capitis is the most common diseaseresulting from the Pediculus Humanus Capitis [2].

Pediculosis can cause itching, conjunctivitis, secondary bacterial infections, post-treatment dermatitis, adenopathy and allergic reactions. Also, head lice can lead to psychological stress and disruption in school learning performance. So, there is a concern about the outbreak of lice infestation in schoolchildren [3].

The pediculosis is definitely diagnosed through direct vision of the insect or its eggs [4]. Lice infestation can predispose the patients to secondary infections by some pathogens like Staphylococcus aureus and Streptococcus group A, which can lead to nephritis, rheumatic fever and sepsis [5].

Pediculosis Capitis affects approximately six to twenty million cases in the world which increases progressively and results more than $400 million costs annually [6].

In addition to health recommendations, there are ten different drugcategories fortreatment of pediculosis, which can cause side effects and complications occasionally [7]. Also, drug resistance has been shown to all existing drug categories [4]. It seems that the current chemical treatments and individual prophylaxis failed to control the disease completely [2,7]. Therefore, it is rational to use complementary

medicine in this field.

Persian medicine was based on the theory of temperaments and humors. individual lifestyle (Sette Zaroorieh) was also mentioned in Persian medicine (PM) in details [8]. Pediculosis was documented in PM. PM scientists considered some preventive and non-pharmacological treatment strategies based on six essential health principles (called Sette Zaroorieh) [9-11] including nutrition, air (i.e.seasons, temperature, climate and etc.), physical activity, sleep and wakefulness, depletion and retention (i.e. excretion of unnecessary substances and retention of necessary substances), psychologic state. Correct adherence tothese principles can improve human body health and prevent diseases.

In this study, we focused on the useful recommendations for prevention and control of pediculosis according to Sette Zaroorieh.

Materials and Methods

In this qualitative study, some well-known PM textbooks including Al-Qanun fi al-Tibb (The Canon of Medicine), al-Hawi fi al-Tibb, Exir-e Azam, Zakhireh-e-Kharazmshahi were reviewed based on the selected keywords (Shepesh, Reshk, Ghamal). Also, we searched the topic in the medical databases such as Pubmed, Science direct and Scopus.

Results

Pediculosis in the PM

According to the PM manuscripts, pediculosis has been discussed with titles like "Shepesh, Reshk, Ghamal and Seyban". It was seen in the presence of excess moisture in the human body which cannot reach to the skin and remains in the depth of the body due to a low body heat [12,13]. Recommending to observe personal hygiene, PM expressed some other factors which can influence the prevalence of pediculosis.

Pediculosis Risk factors with regard to the six essential health principles

1. Age: children, adolescents and elderlies are more likely to develop pediculosis whereas middle-aged people have less potential for this disease [12,14-16].

2. Hot and moist temperament [16].

3. Cold season (winter) and wet climate [16].

4. Poor-hygiene [16].

5. Nutrition: consumption of some types of foods such as eating too much fresh and dried figs [12,14,15] radish and its seed [12,14] phlegm producing foods(e.g. milk and fresh fish) [16] eating too much meat [14], eating wild animal and cow meat continuously [17], date syrup [18], slimy "Lazij" foods (e.g. pasta, pizza and fresh fish) [19], greasy food [15], concentrated food like Halvah and Haleem, cabbage and cow's milk [18,20].

6. Polyphagia [12]

7. Inadequate and low physical activity [12]

8. Inadequate and inappropriate bath [12]

9. Blood "Dam" humor overproduction [12,21]

10. Fatigue [22]

11. Excessive sweating [22]

12. Presence of chronic disease [16]

Preventive and therapeutic factors for pediculosis

Based on the essential health principles in PM, there are several recommendations for prevention and control of pediculosis:

1. Wearing linen and silk clothes [23]
2. Steaming clothes with *Veratrum album L*, *Lupinusangustifolius L*, leaves of*Melia azedarach L*. and *Costusspectabilis L*. [22]
3. Bathing and cleansing the body regularly [24]
4. Using scrub and soap on the body and also chemical depilatory usage in the bathroom [25]
5. Not eating concentrated and phlegm producing foods [16]
6. Doing exercise [24]

Discussion

Over the past decades, the socioeconomic status and public health care have been improved dramatically, however, pediculosis is a common parasitic disease and is considered as a high prevalent health problem. PM scientists were familiar with pediculosis and described etiological factors (endogenous, and precipitating factors), clinical manifestations and treatment strategies (diet therapy, herbal medications) of which in details. Main risk factors of this disease in the PM are compared with conventional medicine (Table 1).

In both views of conventional and Persian medicine, age is considered as a risk factor.Pediculosis is more prevalent in childhood and adolescence due to their moist temperament [2,12,14,15]. However,in the elderly, excessive abnormal moisture increases the risk of infection [13,16]. According to PM, any condition which creates moisture and low heat, is considered as a predisposing factor for lice infestation.

Recent studies have shown that the prevalence of pediculosis is higher in girls [2] which is not mentioned obviously in PM. Although moist temperament is higher in girls than boys [29].

In some studies, cultural and socioeconomic status (SES) has been considered as an effective factor which can reduce risk of lice infestation whereas in the other ones SES is a factor that only provides better access and awareness to health issues [2,30,31], in PM, it has been considered that having clean and proper clothesand also appropriate bathing are effective in preventing disease which requires a proper SES [12,22,23].

Increasing the prevalence of head pediculosis at the end of the holiday period was reported probably due to inadequate parental care and migration during this period [2]. PM believed thatin the holiday period, children usually have irregular food (eating too much foods), sleep and activity program which can cause accumulation of abnormal moisture and consequently, increase the chance of lice infection [9].

The prevalence of pediculosis has been reported to be less in the black race [4] which is not mentioned clearly in PM. However, black people have hot and dry innate temperament, so they have benefits of preventive even therapeutic effects of the dryness.Also, lice infestation has been seen less in men due to their drier temperament than women [2,29].

According to conventional medicine, pediculosis is more prevalent in small mammals which are living in lower and non-mountainous areas [27]. In PM viewpoint, humid climate and winter season increase

Table 1. Comparison of risk factors of pediculosis from the perspective of Persian and conventional medicine.

Persian Medicine	**Conventional Medicine**
Age (being child, adolescent or elderly)	Age (being child, adolescent, school age) [2]
-	Female gender [2,26]
-	Low economic and social conditions [2]
Hot and moist temperament Blood "Dam" humor overproduction	-
Cold and wet climate	Warmer seasons Lower and non-mountainous areas. [3,4]
-	Black race [27]
Poor hygienic	Poor hygienic level [2,3]
Consumption of some types of foods: · Concentrated food like *Halvah, Haleem*, cabbage and cow's milk · Fresh and dried figs · Radish and its seed · Moisturizing foods which produce phlegm like milk and fresh fish · Salty foods · eating too much cow and wild animal meat · Date syrup · Slimy "*Lazij*" foods like pasta, pizza, greasy food	-
Polyphagia	Overeating [28]
Inadequate and low physical activity	-
Excessive sweating	-
Fatigue	-
The presence of chronic diseases	-
Type of clothes	-

the chance of infection [16]. It is shown that the lice infestation in rural areas is more than urban areas [2] but this issue was not addressed in PM.

In both PM and conventional medicine, it is mentioned that good personal hygiene habits is essential to prevent lice infestation [2,3,24,25], in PM textbooks, taking a proper bath has some characteristics including a moderate and steady temperature of 28 to 30 degrees Celsius, nottaking bath during starvation or immediately after eating, bathing once a week [32,33]. Long-lasting bath and take a bath during starvation can cause dry temperament, while short-lasting bath and take a bath immediately after meals creates moist temperament which is a risk factor for pediculosis [29]. It was found that the incidence of head pediculosis in the children who washed their hair once a day was eight times lower than those who washed their hair several times a day [34].

In the PM, the effects of overeating on pediculosis has been clearly considered. In those who have adequate and moderate nutrition (not overeating nor malnutrition), excessive moisture which is essential for the growth of the lice would not be produced [12,18,28]. Type of food is also important in PM. The figs, especially fetid and black ones have hot temperament which cause fever and thirst in hot-tempered persons and consequently the humors burn and cause pediculosis. However, eating figs with almonds or walnuts can help in management of pediculosis. In addition figs can take away excessive moisture from the depth of the body and bring it to the surface of the skin which should be washed out by bathing. So, if people take a bath regularly, the figs would not cause pediculosis [16,18,22,35-37]. High consumption of concentrated foods also leads to lice infestation [14,38].

Other factors like low physical activity, poor-hygiene conditions, fatigue, excessive sweating and the presence of chronic disease, can cause accumulation of moist humor and are mentioned as predisposing factors for lice infection [12,16,22].

According to PM, type of clothing is also important. linen clothes keep the body cool and have the least amount of adhesion to the body, so it's not a good place for living of this parasite [22] especially when the underwear is made of linen [39].

Conclusion

It seems that considering those issues which is mentioned in the six essential health principles (Sette Zaroorieh) of PM can reduce the potential of pediculosis. Some of them are:Having a proper activity, eating a balance diet, moderate depletion such as good and adequate bath, living in warm and dry climate and any factor which eliminates excess moisture and causes dryness in the body. Further clinical studies are recommended in this regard.

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