



Health Recommendations for the Elderly in the Viewpoint of Traditional Persian Medicine

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Abstract

Background: Old age is one of the most important and longest periods of life in human beings. Identifying the effective factors in maintaining and promoting health in the elderly can prevent chronic diseases in this age group.

Objective: This study aimed at presenting traditional Persian medicine (TPM) measures for maintaining the elderly's health.

Methods: This review article was conducted on traditional Persian medicine textbooks and Noor software to investigate the viewpoints of Iranian and Islamic scholars concerning maintenance of elderly's health.

Results: The elderly's age range has been expressed differently in the traditional medicine. However, in most cases, those aged 40 to 60 years and above 60 have been considered as middle-aged and old aged, respectively. Temperament of both age groups are cold and dry, but the elderly suffer from the predominance of wetness in their main organs, which is the sign of attenuating their innate heat compared with the middle age groups. The elderly should use hot and wet foods and drink more frequently and avoid cupping and bloodletting. They should not be isolated and rest alone for long times. Visiting the elderly regularly warrants their mental and physical health; however, frequent and long-time visits may disturb their privacy and should be prohibited. Also, they are recommended not to omit their dinner and sleep early. Frequent intercourses may jeopardise their health and are not recommended. At last, a regular moderate physical activity to maintain their stamina and physical conditions in addition to a healthy diet and good relationship with family and friends should always be considered for this group.

Conclusion: Health recommendations cited in traditional Persian medicine sources are usually safe, useful, and practical; thus, using them in everyday life routines of the elderly seems to be beneficial and improve their quality of life. However, rigorous and well-designed clinical trials should be tailored to prove the real efficacy of the aforementioned health measures in quality and life span of the elderly.

Keywords: Traditional Persian Medicine, Elderly, Health

1. Background

As Persian sages stated "Old age may be considered the longest period of life" because it starts at the age of 60 and can be extended to the age of 120 years if the recommended health measures are perfectly observed. According to traditional Persian medicine (TPM), human's life consists of 2 general and distinct stages: intrauterine and postnatal. Furthermore, each stage includes several different periods. Postnatal stage involves several life periods including childhood, adolescence, middle age, and old age (1, 2). In most TPM sources, middle age and old age periods refer to

the ages 40 to 60 and above 60 years, respectively (2-4).

Old age is a physiological phenomenon in human life and should not be considered as a disease. Nowadays, geriatric medicine is considered to be a specialty in most reputable medical universities around the world, suggesting the importance of the elderly's health (5, 6). Life style modification has an important role in improving health and preventing several diseases in the elderly (7). Healthy lifestyle can improve the ability of humans, especially in the elderly (8). In Canon of Medicine, Avicenna stated that old age is a natural process in human life, and thus to main-

tain a healthy life, the elderly should observe special measures and precautions because of normal changes related to senility in some body organs and their functions at this age (2).

In TPM, identifying the temperament (mezaj) is the main key for preventive, therapeutic, and lifestyle recommendations (9). Mezaj is defined as the interaction of different components in the human body, affecting the emotional and physical characteristic and physiological function of the body (3). In general, each person owns a unique property called mezaj, which is divided into 9 major groups including 4 simple mezaj (warm, cold, moist, and dry), 4 compound mezaj (warm and moist, warm and dry, cold and moist, cold and dry), and a moderate one. Mezaj is affected by several factors including age, sex, season, job, and habits. Different age periods are usually related to different humour dominance, which is in accordance with seasonal variation in some way. Childhood and spring are related to dominance of warm-wet temperament although using humour dominance in health states is regarded wrong in TPM basis. In the same way, youths and summer, middle age and autumn as well as old age and winter are related to dominance of warm-dry (bile), cold-dry (melancholy) and cold-wet (phlegm) temperament, respectively (2, 10).

According to world health organization's (WHO) message on the international day for the elderly in October 2013, the elderly population is increasing in most of the countries throughout the world and it is estimated that it will increase from 7% to 8% in 2025 to 15% in 2050. This is a warning for communities to consider specific health and economic plans for increasing social demands of this group (11).

Recent studies have shown that more attention to preventive medicine, especially in the elderly, can lead to enhanced quality of life and increase in their health level, but modern medicine approach to preventive modalities is not enough and further integration of traditional and conventional medicine seems necessary (12-14). TPM health measures are usually simple, safe, economical, and protective; however, using TPM recommendation should be evidence-based to minimize any unwanted complications and side effects (15, 16). The authors of this manuscript believe that observing the health measures according to TPM sources may contribute to providing a healthy lifestyle for the elderly as a complementary treatment to new medical measures.

2. Methods

To study the viewpoints of Iranian and Islamic scholars concerning health measures in the elderly, the main

TPM sources including Al-Qanoon fi al-Tibb (by Avicenna), Zakhireh-i Kharazmshahi (by Ismail Jorjani), Hifz-e-Sehat (by Naser-al-hokama), Hafez Al-sehha Naseri (by Gilani), Mofareh Al-Gholub (by Arzani), kholas-at-al-tajarob (by Razi), Al-Aghraz al-Tibbia Val Mabahess al-Alaiia (by Jorjani), Alvoh-Al-Sehheh (by Gilani), Kholast-al-hekmah (by Aghili-Korasani-Shirazi), Urjuze Fi-al-Teb (by Avicenna), and Resaleh Zahabieh (Attributed to Imam Reza (PBUH)) were reviewed by keywords of "Mashayekh", "Sheykhokhiat", "Kohoulat", "Pyran" and "Miyansalan". Furthermore, SID, Google Scholar, EmBase, Scopus, and PubMed were also searched with keywords of "elderly", "old age" and "health" to find recent findings in the literature in accordance with TPM health measures.

3. Results

3.1. Senescence in TPM

As mentioned in some TPM sources, aging results from changes in vessels, arteries, intestines, stomach, and other organs, which develop a slippery state in their inner surfaces because of slimy phlegm. This is due to the accumulation of moisture in the gastrointestinal (GI) tract, and consequently, disturbed digestion and decreased absorption of essential trace elements and minerals. In fact, the elderly usually suffer from constipation and cannot tolerate heavy meals because of poor digestion (4, 17).

According to TPM acknowledgment, middle-age refers to ages 40-60 years and the old age starts after the age of 60 (2). Mezaj or temperament of the middle-aged and the elderly are cold-dry because of the decrease in the core body temperature and weakening of the body faculties, which are natural processes of the old age. However, the elderly in addition to possessing cold-dry temperament suffer from dominance of foreign moisture in their main body organs including heart, liver, and GI tract, which is due to attenuation of their innate heat compared to the middle aged (3, 18, 19). Attenuation of the substantial moisture (rotoobat-e-qarizi) and consequently innate heat (hararat-e-qarizi) results in disability and frailty in the case of inattention to TPM health measures. TPM sages believed that substantial moisture and innate heat are inherited from parents. Substantial moisture and innate heat may be regarded as genotype and phenotype in modern terms with connivance; however, understanding the real meaning of these 2 concepts needs a different approach to TPM terminology. In brief, the substantial moisture was considered as oil for an oil lamp (human body) and the innate heat as its flame (life), and the continuation of the life was believed to be related to the maintenance of either the oil or the flame (20).

Prevention in TPM is based on 6 essential healthy rules called *sette-ye-zarurieh*, which are as follow: (1) air, (2) eating and drinking, (3) sleeping and waking, (4) exercise and rest, (5) retention and evacuation, and (6) mental states. According to TPM sources, these rules are the causes of health rather than the causes of diseases. Humans need air to live, drinks and foods to survive; they need wakefulness to provide their needs and sleep to reinforce their faculties; they need retention to use air, drinks and foods; and they need evacuation to get rid of wastes as well as mental states including happiness, grieve, shame, fear and audacity to shape their life and deal with the external world (21). The best health measures for old age are adequate sleeping, regular short-time bathing, and using appropriate drinks, eating good quality food, having a normal bowel habit and soft well-formed stool, as well as appropriate daily physical activity (18).

3.2. Air

The best season for the elderly is spring and it is best for them to stay in climates and places whose weather is similar to that of this season; i.e., moderate weather condition, not too cold and not too warm, with moderate humidity. The elderly should avoid drinks and foods which induce coldness in the body organs especially in cold seasons because of their cold temperament. Soft short-time body massage with warm oils revitalizes them and keeps them vivacious and healthy (3, 18, 19).

Long stay in crowded and closed places is harmful for the elderly because they need peaceful and calm environments to decrease their mental tensions and not to waste their mental and physical energies. Besides, they should always take a bath with lukewarm water and wear warmer clothes compared to the young (19, 22). The remarkable note in the new studies is that exposure to air pollution, especially particulate matter and dust is associated with cognitive disorders in the elderly (23).

3.3. Eating and Drinking

However, temperament (*mezaj*) of the elderly is cold-dry (2, 3, 18); the *mezaj* of some organs, especially the GI tract is cold-wet due to decrease in the innate heat and accumulation of phlegm and morbid humidity in their main body organs (18). Generally, cold-dry temperament needs warm-wet food measurers, while cold-wet temperament needs warm-dry measures. Nevertheless, it should be considered that all the elderly need warm-wet foods to maintain their health. Nonetheless, the elderly with cold-wet GI tract, who could not tolerate watery foods and drinks, should decrease the volume of their meals, increase the number of their meals, and use nutritious foods that are

easily digested (4, 18). In other words, their meal should be in small portions and small in quantity, but should be nutritious, high calorie, and easy to digest with short transit time. *Latief* (small digestible foods) such as broth, soup, soft-boiled egg, and fully-baked bread with balanced amount of salt are considered to be suitable and proper for the elderly' GI tract provided that they are consumed solely and not with other foods. Other healthy foods for geriatrics include meat of a 6 month-old lamb, young rooster, and chicken, partridge, and milk (18).

Accumulation of phlegm (dense moisture) in the elderly's GI tract, which is due to poor digestion and diminished innate heat, causes anorexia and low appetite. Therefore, they should avoid foods that produce thick phlegm and moisture as well as the materials that are the precursors of phlegm and black bile. In this regard, boiled milk is beneficial because of being nutritious and wet provided that it is well-tolerated and does not develop itching and hives (3, 18). Moreover, goat milk is the best milk for the elderly because it is low in fat and calories and easier to tolerate compared to cow milk (2, 3, 18, 19).

Food fortification and using enriched foods to provide enough energy (moisture and heat) are recommended for the elderly because poor digestion interferes with taking their daily needs through a routine adults' meal (21). In fact, the elderly should increase the number of their meals and decrease the volume of each meal to maintain balanced energy expenditure. For instance, bread and honey is a good meal for their lunch. Also, the elderly should not skip dinner as it is a highly important meal for health maintenance and disease prevention; otherwise, the aging process will be accelerated. Lamb kebab without bread, especially when it is marinating in light vinegar and ginger (to make it light and easily digestible) is a nutritious healthy food for the elderly (3, 4, 18, 19).

The elderly should avoid the foods and spices with hot-dry temperament such as pepper and ginger in high amounts. These are bile secretion stimulators and cause waste of bile, an important humour for health maintenance and longevity. On the other hand, the predominance of hot-dry temperament in the elderly exposes them to constipation (3, 18, 19).

The best vegetables recommended for this age group include beets, celery, and leek in small amounts. It should be considered that raw leek, onion, and garlic should be used with caution, especially in the elderly with reflux and GI problems. According to TPM sages, these foods are flatulent and harmful for the central nervous system (CNS). Nevertheless, ginger jam is a good remedy for the elderly with wet and weak stomach. Moreover, lettuce acts like a hypnotic medicine for the elderly and improves their sleep provided that it is used in moderate amounts (3, 18,

19, 24). Generally, the elderly is prone to cold-wet dystemperament of the GI tract in which moisture and phlegm increase in the stomach, and thus the organ's main function is disturbed. The clinical manifestations of GI cold-wet dystemperament include drooling, increased salivation, indigestion, reflux, and bad breath. Herbal diuretics such as alyssum (Ghoddumeh shirazi) are recommended to decrease GI humidity (2, 22). Honey nectar is a good meal, especially for the elderly with cold-wet dystemperament, relieving their musculoskeletal pain, releasing their joint stiffness, and warming their body, especially when it is blended with medicinal herbs exclusive to the afflicted body organ (19).

Based on TPM sages' opinion, the elderly are prone to minor vascular obstruction in some organs, leading to organs' function disturbance. To relieve patients' sufferings, they are recommended to use some herbal medicines called opener (mofateh). The suitable and safe herbal openers include pennyroyal (fudanjie), black pepper, treacle, athanathia (traditional Persian drugs), and amroosia (one of the compound traditional Persian drugs), and desert carrot seed (3, 19).

Also, some TPM sources have recommended red wine from grapes for the elderly accustomed to drinking. However, according to the mentions of Islam, drinking wine is prohibited and according to scientific research drinking wine is harmful for the main organs including brain and liver, increasing the chance of liver disease (estesqaa) (2, 17).

Health measures for the elderly have also been reviewed in Urjuze Fi-al-Teb, a didactic poem by Avicenna. Avicenna stated that the elderly should decrease the interval between their meals as well as the volume of each meal. Instead, they should increase the quality of their daily diet and eat nutritious foods that maintain the bile in the body. Hot, spicy, sweet, and fatty foods that stimulate bile secretion are considered to be harmful for the elderly (25).

In Resaleh Zahabieh attributed to Imam Reza (PBUH), olive oil has been considered to be a good food that causes the mouth to smell good, takes Phlegm away, makes skin colour bright, makes nerves strong, destroys diseases, and soothes anger (26). Moderate use of olive oil in old age is beneficial, relieves difficult bowel movement, and makes skin clear and bright (2). It is also cited that beans are useful in the maintenance of bones power and delay in aging (26).

3.4. Sleeping

Elderly usually do not need more than 5 to 6 hours of sleep, and using hypnotics or opium is not recommended for them (1).

In general, the elderly are more affected by bad weather, unpleasant odours, vapours, smoke, and dust because of general body weakness and acuteness of their sensation due to dryness of the brain tissue (23, 27). Brain in the old age tends to be drier compared to younger ages because of the normal process of senility, chronic stress, and poor cerebral blood circulation. This dryness has been reported to result in insomnia and sleep disorders (28). The humidifying measures for the brain include using nasal oil drops of pumpkin or sweet almond, eating porridge of vegetables (parsley and leek and spinach) with lamb and rice or barley. Accordingly, they should avoid hot-dry spices such as pepper, mustard, and ginger in high amounts. Using pickles also accelerates the process of aging and exposes individuals to mental and CNS diseases (1, 20, 21). On the other hand, brain refreshing fragrances such as rosewater, and GI boosters including compounds of Terminalia chebula (halile) could vitalize and enliven the elderly (1, 3, 19).

3.5. Retention and Evacuation (Ehtebas and Estefragh)

Retention measures include the way of keeping the essential elements and minerals in the body to maintain the elderly's health. Besides, evacuation measures refer to the way which helps the elderly to repel wastes out of their body because delay in expelling waste matters puts their health at risk (2, 19). In this regard, nutritional measures and herbal medicines have been mentioned in TPM to maintain a normal bowel habit and treat urinary retention (2, 3, 18, 19).

The elderly should avoid wet-cupping, bloodletting, and leech therapy (3, 18). However, Avicenna in the Canon of Medicine permits bloodletting through creating a small incision in basilic or median cubital vein, fasd, up to 75 years of age for the elderly who are accustomed to fasd and have good stamina and the signs of sanguine (blood) predominance, ghalabe-i-dam (29). According to Urjuze Fi-al-Teb, wet-cupping and leech therapy are banned in the individuals older than 60 years, but the elderly suffering from sanguine predominance and those who are used to phlebotomy with knife could do fasd annually up to the age of 75 years (25). Yet, the best way to remove unhealthy matter is using purgative or moss'hel. According to TPM sources, moss'hel is a drug which affects the small intestines and attracts the morbid matters from the circulation (mesenteric vessels) and repels them out of the body through lower GI tract. However, these types of interventions have limitations as well (2, 3).

Using mild laxatives, stool softener, or suppositories have been proposed to relieve phlegm accumulation. In this regard, use of gentle anointment of anus with oils

which are moderate in warmth and moisture is recommended, moreover, smelling scented aromatic natural oils might be beneficial (1, 2). Nonetheless, repeated usage of purgatives and using intense drugs are prohibited among the elderly (2, 18, 19). Dried fig is a preferable remedy as a stool softener for the elderly who suffer from constipation. Turpentine gum may also be used as a laxative to facilitate bowel habit (3, 19). In case bowel movement is normal every other day, treatment is not necessary. However, when the elderly suffer from hard stool and have difficulty in defecation (3, 18, 19), enema with proper oils is beneficial, as it either evacuates and expels the morbid matters out of the body or softens the viscera. Nevertheless, rapid insertion of oil should be avoided. In this respect, olive oil is the best oil to be used (3, 19).

In sum, the best oils for old ages are narcissus oil, Jasmine, and Lily. The best foods are fatty broth, soup, wheat porridge, and milk and honey. Additionally, the best fruits are fig, currants, and fresh dates. Also, Chicken porridge with a little fern relieves constipation in the elderly (3, 18, 19).

3.6. Exercise and Physical Activity

The elderly with physical disabilities, who cannot stand routine physical exercises, are recommended to use cradle, a pleasant relaxing safe activity that causes a moderate heat in their body and prevents the accumulation of the morbid matters and sanguine stagnation in their vessels (2, 18). In the elderly, massage (dalk) should be moderate in duration and intensity (not too hard, not too soft) to refresh the skin and create a moderate heat and humidity in the massaged organ (2, 3, 30, 31).

The elderly with chronic diseases should have a regular physical activity and exercise parallel to their physical conditions to protect the afflicted organ from the harmful effects of vigorous exercise and maintain their physical and mental health. For example, the elderly with CNS diseases such as stroke should choose exercises with the least head and neck movements including slow to moderate walking. On the other hand, those with disabilities in lower extremities could choose a physical activity of the upper extremities, head, and neck. Besides, the elderly with liver and spleen diseases should choose exercises in which the lower and upper extremities are involved with the least entanglement of the visceral. The old individuals with chest organ diseases should avoid all the exercises, except for those of the lower extremities. Finally, those with bladder and lower abdomen diseases should just select the exercises of the upper extremities. The crucial point regarding the elderly' physical activity is consideration of body stamina, habit, and perseverance. It is also important that the el-

derly with a disability in a specific organ gradually move and rehabilitate the affected organ (3, 18, 19).

3.7. Mental States (*Araz-e-Nafsaani*)

Slithering on a soft and comfortable bed, gaiety, and looking for happiness are recommended for the elderly. They should avoid the situations that irritate them and make them cranky and depressed. Chronic and drastic mental emotions also put them at risk of mental and physical illnesses. Similarly, chronic stress exposes them to acute hot dystemperament of the brain and weakens their sober force or nature to play its protective role. The causes of cold dystemperament of the main body organs should be known and avoided. Thus, chronic illness, mental stress, and mental conditions including fear and grief and external causes such as using cold odours and perfumes, eating pickles, and yogurt routinely are prohibited in the elderly (2, 3, 32).

Depression and loneliness are also important factors that endanger the health of the elderly. This is in fact attributed to other health issues, ie, nutrition and physical activity. Secluded elderly are at risk of developing anorexia (33). Depression can be treated by meeting friends and family, increasing community relations, and going to pleasurable places. Imam Reza (PBUH) stated that happiness is having a big house with many friends. When family and friends meet the elderly, they will feel happy, which eventually increases their hope and life expectancy (26).

The elderly should live in calm, peaceful, vast, and bright places. Crowded and noisy places make them feel restless and anxious. Additionally, friends and close family should visit them with short intervals, but should not disturb their privacy with long staying or making them do things they do not like. Family and friends should respect them, treat them in a polite manner, and listen to their advices carefully and even though they do not want to take their advice. Moreover, family members should provide a space in which the elderly feel that they are useful and valourous in the family. Neglecting the elderly's mental conditions and only considering the physical aspects of old age do not warrant a healthy lifestyle for the elderly.

3.8. Other Health Recommendations

Bathing should not be elongated for the elderly because it causes weakness. They should also avoid bathing and swimming immediately after having meals, especially the main heavy meal (3, 24). In fact, they are recommended to bath after passage of the ingested food from the cardia while there is a little appetite for eating. However, bathing while hungry is prohibited and harmful for the elderly. Moderate-time bathing moisturizes the body, releases the

stiffness and dryness of the musculoskeletal tissues, and facilitates the expelling of the morbid waste matters out of the body. Moreover, body massage with the mixture of mashed myrtle leaf, honey, and basil after washing in the bathroom is helpful for the elderly (3, 22, 34).

4. Discussion and Conclusion

Nowadays, preventive medicine is neglected in medical conception; otherwise, therapeutic medicine is highlighted (35). Six essential basics mentioned in TPM sources are not regarded as an unfamiliar issue in the literature. Recent studies confirm the aforementioned health measures of TPM with modern terminology.

Living in air polluted areas and remaining indoors with poor ventilation put the elderly in the risk of developing cardiopulmonary diseases (36). Bind et al. found that air pollution distorts cardiopulmonary risk factors, especially in the elderly males (37). A systematic review and meta-analysis on cause-specific morbidity and mortality related to heat-exposure and cold-stress among elderly conducted by Bunker et al. revealed that morbidity and mortality are greater in elderly with diabetes, cardiovascular and respiratory diseases under the heat or cold stress (38).

Literature review reveals the positive effects of calorie restriction with adequate nutrient intake in prevention of chronic diseases and maintenance of a healthy life among the elderly (39). Free radicals have been hypothesized to contribute to the aging process. DNA-damages induced by reactive oxygen species (ROS) is considered as a probable mechanism of aging (40). There is a controversy about the effect of dietary restriction, calorie restriction, and more recently methionine restriction (MR) on extending lifespan in rats; however, recent studies suggest promising results, while the aforementioned regimen is accompanied with limiting other amino acid intakes. It is proposed that one probable mechanism of low methionine diet on extending lifespan is diminishing tissue oxidative stress through decreasing mitochondrial ROS generation and subsequent DNA and protein damage (41). A recent study also showed renoprotective effect of MR-diet in rats (42). TPM recommended foods for the elderly such as honey, leek, lettuce, yellow carrot, vegetable porridges, ginger, light broth and barley soup contain low methionine and seem to be healthy based on the recent evidence.

TPM has an attractive concept for care of the senile. TPM sages state that human beings are a combination of soul and body. Thus, inattention to mental and spiritual aspects of patients, as a body-spirit reality, disturbs the process of healing (21). The elderly is more vulnerable to stressful conditions both mentally and physically, which is the

result of aging process and diminishing of body faculties (43).

Lifestyle and habits are also of particular importance for the elderly (44). Based on TPM knowledge, there are some lifestyle modifications and nutritional recommendations to prevent or delay elderly complications. Hence, it is crucial to observe specific health measures for the elderly. Avicenna and his followers had a different attitude towards aging and proposed health measures for the elderly. Paying specific attention to mental aspects, nutritional habits, physical activity, rest and activity, sleep and waking, and place of living are some of the important factors mentioned in TPM sources for maintaining health at the old ages, many of which are in line with new researches and had been approved by modern medicine: paying special attention to appropriate sports and activities for the elderly (45); decreasing anxiety, depression, and stress and feeling of loneliness by involving them in teamwork (46); observing certain dietary rules (47, 48); and emphasizing the need for good sleep and relaxation (49, 50).

Traditional medicine practitioners do not just pay attention to dietary recommendations, but also they attend to other aspects of life and life style. Moreover, observing the health measures proposed by TPM sages warrants a calm and peaceful life in the longest period of life based on TPM sages' point of view. TPM sources govern decades of experiences regarding healthy lifestyle, which provides a great opportunity to put them into practice and promote the community's health through tailoring vigorous well-designed clinical trials.

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