



## Re: Persian Medicine Viewpoint on Seasonal Pattern of Multiple Sclerosis Relapse

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Received: 2 Jan 2018

Accepted: 10 Jan 2018

### Dear Editor,

To date, many articles have emphasized the seasonal patterns for multiple sclerosis (MS) relapse, although with different seasonal prominence mostly spring and early summer [1, 2] and with diverse correlations [1, 2]. Even a peak change from summer to spring during the past decades has been discovered [3]. An article published recently showed a seasonal sinusoidal pattern of MS relapse rise in late spring and a nadir in late summer mostly in earlier ages and relapsing forms of the disease, and largely related to sunshine [4].

In this article, we discuss some important findings of the above mentioned article from the perspective of Persian Medicine (PM). Although MS has not been described as a distinct disease in PM, most of its prominent symptoms and signs such as paresthesia/hypoesthesia, limb paresis and plegia have been discussed as separate

diseases [5, 6]. Such diseases are mostly related to abnormal accumulation of unsuitable humors in the nervous system.

In PM literature, the preparation process of humors for suitable consumption or excretion, is termed *Nozj* [7]. This rheological change in bodily fluids requires heat. *Jurjani* - a PM scientist - states that coldness inhibits *Nozj* and inversely warmth promotes it, so in warm weather or seasons it can occur at a faster rate [8].

Two types of heat are effective in the *Nozj* process: the innate heat [9]- the *Haar* - and external heat such as sunshine, etc. The external heat not only has its own effect but also provokes *Haar* to reach distal parts of the body. During *Nozj*, dense frozen matter may melt down, liquefy and flow to other parts of the body like neural plaques, leading to relapse. Individuals below age 30 are known to produce more in-

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nate heat, which makes them more susceptible to *Nozj* upon entering a warmer situation like the spring which may be correlated to their seasonal relapses. Besides a lower *Haar* status, individuals with colder temperaments have more dense tissues that also may not receive enough blood and the accompanying *Haar*, and thus not stimulated enough to undergo the melting effect. This latter group may be comparable with the older aged or the progressing group - despite the relapsing - that are less affected by seasons. Avicenna, the worldwide famous PM scholar, has stated that chronic diseases may excite or relapse in spring due to the melting and flowing of winter's frozen stagnant humors. He has declared that over-eating and under-exercising in winter leads to formation of redundant humors, which become active and disseminated in the tissues during spring. In spite of spring flare-ups, he has noted that a prolonged balanced spring will be followed by a summer with fewer diseases [10]. This might be compatible with

the nadir in late summer.

PM literature describe spring as a time that a normal person needs neither warm cloths nor cooling instruments, and that the trees begin to blossom [10]. Therefore, the onset and duration of the seasons in different latitudes and climates can differ from the solar calendar. In warmer climates, earlier melting of matter in early spring or even late winter is therefore probable, and might be a reason for varied relapse peaks in different studies.

At the end, we suggest using PM's help to decode the diversity of patient reactions to seasonal changes and that this diversity may have roots in their variety of temperaments and tissue microstructures.

### **Conflict of Interest**

None

### **Acknowledgment**

None

**Citation:** Rezaeizadeh H, Alizadeh Vaghasloo M, Abbasi M. **Persian Medicine Viewpoint on Seasonal Pattern of Multiple Sclerosis Relapse.** Trad Integr Med 2018; 3(1): 1-3.

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