



## Rhazes's Opinion about Relationship between Physical Activity and Eating Food

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### Dear Editor

Regular physical activity (PA) and healthy diet are two important factors to determine health behaviour which result in health preservation and disease prevention [1, 2]. Mohammad Ibn Zakariya Razi (Rhazes) (865 – 925 AD), one of the most brilliant scientists in Iran, authored more than 180 books in medicine and other scientific fields. He is also famous for discovering alcohol and sulfuric acid [3]. He believed that in order to preserve health everyone ought to observe not only regulations of both PA and nutrition, but also he/she should learn about their relationships and obey their rules as well [4]. Through studying the book “Manafeolaqzieh va mazarreha” which means:

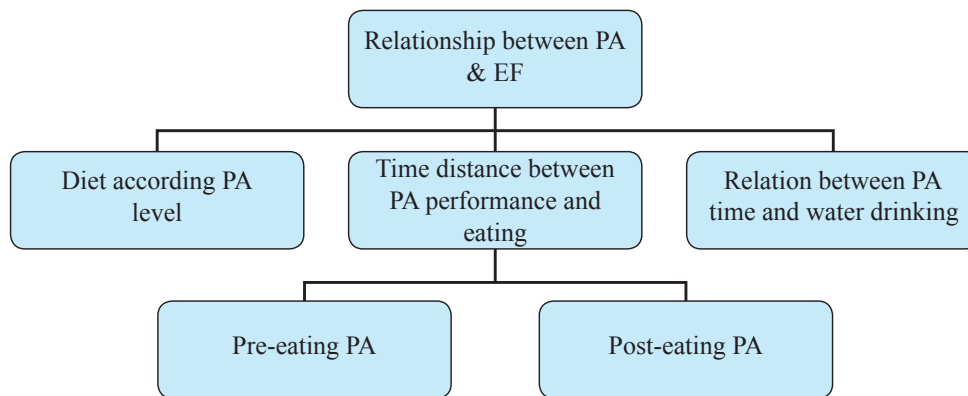
“Foods advantages and disadvantages” authored by Rhazes and translated to Persian by Dr. SA. Alavi-Naini [4], three main themes with two secondary ones describe the relations between PA and eating food.

The main themes were: “The time distance between PA performance and eating” with two secondary themes: “Pre-eating PA” and “Post-eating PA”, “Diet according to PA level” and “Relation between time of PA performance and water drinking” (Shape 1).

A) Time distance between PA performance and eating:

Rhazes said that while the food has not been digested completely, doing PA is prohibited. Urine colour and its changes from discoloured to dark yellow, is the sign of complete digestion.

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**Shape 1:** Relationship between physical activity (PA) and eating food (EF) according to view point of Rhazes

### A-1) Pre-eating PA

Effects: PA before eating is one of the most important factors for health preservation. It enriches digestion through creating innate heat and facilitates wastes defecation.

Indications: All individuals, especially obese persons, need to do PA before eating. Individuals with low body weight, weakened body, warm temperament and who suffer from headache following tardiness in eating are allowed to avoid of it.

Instruction: This activity should be performed rapidly so that it result in deep and rapid respiration and also internal organs enjoy heat. Personal ability is important to choose type of PA; for example, the elderly may choose slowly horse riding instead of running.

### A-2) Post-eating PA

Effects: PA, especially rapid movements, immediately after eating is one of the most harmful things for health because of diffusion of undigested substances among organs. It may result in abdominal distension, diarrhea and burping with sour taste

Indications: Individuals whose gastric digestion is slow, and who will feel heaviness in their head if they rest after food, are allowed to walk slowly after eating food.

Instruction: It should be performed slowly so that no member will be affected by the heat and no changes will be occurred in respiration.

### B) Diet according to PA level

Athletes and individuals with active job digest food rapidly. They should avoid using light and eupeptic foods for long time; otherwise, not only their body will be weakened, but also diseases in relation to “yellow bile” may develop and also premature aging may occur. They should use heavy and nutritious foods. Individuals who have low level of PA due to oldness, body weakness, having no time and etc, ought to avoid from heavy and nutritious foods especially for long time; otherwise, they may contract obstruction among internal organs, articular pain, fever, internal bleeding, internal organs inflammation and some cutaneous lesions. If they eat such foods, they should use some nourishment to prevent from obstructions.

### C) Relation between PA time and water drinking

Sudden drinking of too cold water after PA, especially high intensity exercise, causes liver cold stress which may result in accitis and other diseases which occur following liver coldness. If someone cannot stand thirst either among or after PA, he/she should drink a little amount of

water sipping. If someone drinks cold water, it is necessary to cover the liver with a hot towel immediately.

According to Rhazes's viewpoint, there are three important rules about relation between PA and food for health preservation: The first rule is that PA performing before having food is essential and avoidance of PA after having food is needed for everybody. The second rule is paying attention to choose diet according to PA level. The third rule is avoidance of suddenly drinking of cold water either among or after PA. Some diseases may occur due to neglect from such relations despite healthy diet and appropriate level of PA. It means that your diet may be very healthy and you may perform enough PA and exercise but you pay no attention to their relation so, you are talented to get sick! Furthermore, Rhazes taught simple preventive ways from these events such as

“putting a hot towel on liver after drinking cold water during exercise” to prevent from occurring liver cold stress and diseases, and using some food to equilibrate events of some other foods such as using fava bean to prevent from internal obstructions. A clinical research on Rhazes's opinions is offered.

### Conflict of Interests

None.

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