



## **Ancient Theory about Public Health through Physical Activity against Hyperlipidemia and Ischemic Heart Disease**

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### **Dear Editor in Chief**

Myocardial infarction is one of the most important causes for global death (1). Apparently there are very high prevalence cardiovascular disease risk factors such as obesity and dyslipidemia among middle-aged women in Babol, northern Iran. Furthermore there is a relation between physical activity (PA) and dyslipidemia (2). Some studies describe protective effect of physical activity against hyperlipidemia (3) which is a known risk factor for Ischemic Heart Disease (IHD) (4). Cardioprotective effects of PA are now being acknowledged by the medical community (5).

In this study we show a simple model for protective effect of PA against hyperlipidemia and then IHD based on teaching of Avicenna. In third book of "The Canon of Medicine", Avicenna has told about cardiovascular diseases and some risk factors for them such as excessive exercise. He has explained some protective factors against diseases generally such as PA in book one when he told about hygiene (6). He believed that PA could prevent from "humoral diseases" and "dystemperament" which is followed by them. It means that there are some diseases which are caused by some materials because of changing either their quality or their quantity; so, they can prepare a plotting to produce some new diseases which can change human temperament named as "dystemperament". Both of these two conditions

can be prevented by PA because it results in provoking innating heat and facilitation of disposing certain accumulated wastes. Since embryo is created, innating heat is produced and is a trigger for any movement and any function in human body; so, all organs need to it to do their functions. Decreasing innating heat over the time, organs' function will be weakened. Everything that could preserve this heat and prevent from its decline could prevent from weakening of organs' function. The only preservation factor is exercise; so, it is the sole factor which can project organs' function in an appropriate level. For example, appropriate digestion of food results in normal humors production. Weakening digestion due to instinctive heat decreasing, results in making abnormal humors. Localized accumulation of abnormal humors in vessels or other spaces may result in obstruction. Generalized accumulation may fill vessels or spaces and constrict them without any obstruction; so, blood and soul cannot receive to tissues. Avicenna says that the worth obstruction is obstruction of vessels specially arteries and in particular, obstruction of arteries of chief organs: heart, brain, and liver. Following reinforcing innating heat through PA, digestion faculty will be enriched; so, abnormal humors will not be produced and both obstruction and constriction will be prevented

through producing normal humors and using them. In third book of Canon, through a chapter about heart diseases, Avicenna has explained some diseases which their cause is constriction and/or obstruction of heart vessels.

All hyperlipidemic patients expose symptoms of digestive disorder due to stomach dystemperament (7). It means that hyperlipidemia may be an example for abnormal humor which according to Iranian traditional medicine has been caused by digestive disorder. Summarizing new data about

IHD in comparison with Avicenna's viewpoints has been shown in Table 1. According to Avicenna's viewpoint, there is different recommendations which can prevent from production of abnormal humors and prevent from initial phases of diseases (primary illness), in order to prevent from entering to next phase (finally disease). Exercise is one important preventing way especially for the first phases. More studies about heart diseases and their preventing ways according to Avicenna's viewpoints are recommended.

**Table 1:** Comparison between Avicenna's viewpoints and new medicine

Viewpoint	Material	Primary illness	Following and finally disease
Avicenna	Abnormal humor	constriction and/or obstruction of vessels	Not to receive blood and soul to organs and heart
New medicine	Hyperlipidemia	atherosclerosis	IHD

IHD after atherosclerosis and atherosclerosis due to hyperlipidemia is similar to Avicenna's model: blood and soul cannot be received to heart due to vessels constriction or obstruction, follow to abnormal humor accumulation.

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