



# PHYSICAL ACTIVITY AND THE METABOLIC SYNDROME “LIFESTYLE”

ACTIVIDAD FÍSICA Y SÍNDROME METABÓLICO: “UN ESTILO DE VIDA”

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## Mr. Editor

Currently, some of the diseases with greater concern are diabetes, obesity, insulin resistance, cardiovascular, elevated glucose; all together as the metabolic syndrome caused by multiple factors including sedentary lifestyle, physical inactivity, this being the fourth risk factor with regard to global mortality.

The risks of having metabolic syndrome have been increasing in the last decade, and it is related to insulin resistance and obesity. Obtaining a mechanism that can counteract this problem is urgent and the intake of pharmaceutical products is the most widely used, but the practice of moderate exercises is neglected, which has highlighted the beneficial impact against this disease<sup>(1)</sup>.

Cardiovascular disease is a component of the metabolic syndrome that is closely linked to physical activity, as a product of a sedentary lifestyle and physical inactivity it becomes very concurrent as a mortality factor that has led to various studies to find the best training program that achieves a change, but this is influenced by different factors like age, heredity, etc. That condition to carry out a better beneficial investigation in an equitable way for all kinds of population<sup>(2,3)</sup>.

Exercise-induced irisin, a recently discovered myosin, has been linked to insulin resistance, obesity, and other diseases in adults; however, the information on children is scarce. Therefore, in a study carried out in children and adolescents, the relationship between irisin and physical activity and the effects that it entails with the aforementioned pathologies was seen<sup>(4)</sup>.

The study found that increased irisin levels during short periods of aerobic exercise can only represent an increase in energy expenditure, but a lack of response during long-term regimens, which even include nutrition and dietary advice, can be attributed to adaptive thermogenesis. Its underlying mechanisms as a regulator of metabolic status influenced by physical activity are not yet known with certainty<sup>(4)</sup>.

The relationship between myonectin and physical activity was found in a directly proportional way that had a direct impact with respect to obesity in women. One study conducted an exercise program that comprised three weekly sessions of 45 minutes of aerobic training for 8 weeks that included running with 50-70% of maximum heart rate (first 2 weeks - 50%; second week - 60%; third week - 65%; and the last 2 weeks at 70% of maximum heart rate). Twenty-four hours before and after the training session, fasting myonectin levels were measured. This study was able to show that physical activity achieved an increase in myonectin and therefore a decrease in obesity and risk of metabolic syndrome<sup>(5)</sup>.

In the majority of studies carried out, a beneficial impact of physical activity on metabolic syndrome is seen, however, this is not applied in most populations since its diffusion of this treatment goes unnoticed by the population, such as in students of medicine. What would be the relationship between the lifestyle of students and the risk of having metabolic syndrome before and after applying physical training.

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