

## Reference values of IL-6 and TNF $\alpha$ in Mexican adolescents by BMI

R. V. Pardo-Morales<sup>1</sup>, M. G. Zúñiga-Torres<sup>2</sup>, B. E. Martínez-Carrillo<sup>2</sup>, S. Gómez-Martínez<sup>3</sup>,  
A. Marcos<sup>3</sup> and R. Valdés-Ramos<sup>2</sup>

<sup>1</sup>Hospital of Gynecology and Obstetrics, Instituto Materno Infantil del Estado de México, Mexico, <sup>2</sup>Center for Research and Graduate Studies in Health Sciences, Faculty of Medicine, Universidad Autónoma del Estado de México, Mexico and <sup>3</sup>Instituto de Ciencia y Tecnología de los Alimentos y Nutrición (ICTAN-CSIC), Madrid, Spain

IL-6 is a cytokine mediator in inflammation and stress, produced by different cell groups, including adipocytes, it has been found associated with BMI<sup>(1)</sup>. TNF $\alpha$  is a cytokine produced by monocytes, lymphocytes, adipose tissue and muscle<sup>(2)</sup>, it is able to increase production of IL-6, the adipose tissue of obese individuals have an over-expression of mRNA for TNF $\alpha$  receptor 2 in relation to BMI<sup>(3)</sup>.

The aim of the present study was to provide reference values of some cytokines in Mexican adolescents by BMI status. A cross-sectional sample of 115 adolescents aged 12–18 years, from the city of Toluca, Mexico, was measured for weight and height for BMI calculation, they were divided into non-overweight, risk of overweight/overweight according to Centers for Disease Control (CDC) paediatric criteria. IL-6 and TNF $\alpha$  from stimulated supernatant were analysed with Human Th1–Th2 cytokine Cytometric Bead Array II kit (BD Biosciences Pharmingen, San Diego, CA, USA), and detected by flow cytometry (Facs Diva, BD<sup>®</sup>)<sup>(4)</sup>.

	Male				Female			
	Non-overweight		Risk of overweight and overweight		Non-overweight		Risk of overweight and overweight	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
IL-6 (pg/ml)	576	750	112	67.1	740	1070	621	859
TNF $\alpha$ (pg/ml)	58.9	39.0	45.0	6.3	89.8	116	56.9	35.0

As we show, in subjects with risk of overweight or overweight values of both IL-6 and TNF $\alpha$  are lower in comparison with non-overweight adolescents; however, statistical differences were not found. This information may be used in the future as both, reference values and comparison points by gender, BMI status, ethnic and technique of determination.

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