Abstract

Autistic spectrum disorders (ASDs) are a group of systemic disorders (neurodevelopmental disorder) with multiple etiology, including both genetic and environmental / lifestyle factors. Symptoms of autism appear within the first three years of life and affects the brain's normal development of social and communication skills.

According to (DSM-5) and (ICD-10) Autistic disorder is characterized by impairment in each of the three core areas of social interaction, communication (verbal and non-verbal) and restricted repetitive behaviors, stereotyped behavior, interests and activities.

The aim of the study was to examine the relationship between zinc and copper levels with lipid profile (total cholesterol, high density lipoprotein, low density lipoprotein, very low density lipoprotein, triglyceride) and fasting blood sugar in autistic patients.

The sample study was consisted of (35) autistic patients and (35) normal subjects for age (4-12 years) in Jordan. Two groups were matched in age, weight, height, body mass index. Blood samples were taken from thirty five patients (31 male, and 4 female) with autism spectrum disorder (ASD) and thirty five healthy controls (31 male, 4 female).

The data were analyzed using Pearson correlation and t-test for statistical analysis.

The study revealed that there is no statistically significant correlation between all variables (total cholesterol, high density lipoprotein, low density lipoprotein, very low density lipoprotein, triglyceride, fasting blood sugar) and Zn, Cu, Zn/Cu ratio in normal subjects, while there is just statistically significant correlation between zinc and zinc/copper ratio with high density lipoprotein (HDL) in autistic patients.

The results of the study also showed statistically significant difference in means between autistic patients and normal subjects in Zinc (p = 0.002), Zn/Cu ratio (p = 0.038), total cholesterol (p = 0.008), High density lipoprotein HDL (p = 0.000), low density lipoprotein (LDL) (p = 0.014) and fasting blood sugar (p = 0.04), while there is no statistically significant difference in means with other variables (copper, very low density lipoprotein and triglyceride).

Title: Serum levels of Zinc and Copper and their relation to lipid profile in Autistic patients in Jordan

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