

## Consumption of Omega 3 Fatty Acids among Autistic Children in Jordan

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**Background:** This study was intended to assess the effect of dietary omega-3 and omega-6 fatty acids on autism among Jordanians children and adolescents.

**Methods:** A total of 37 autistic children aged between 3-18 years (mean =  $9.46 \pm 3.9$  years) were enrolled in this study and were asked to fill a questionnaire. Foods contained the highest amounts from omega-3 and omega-6 were also evaluated and studied their relationship with autism. Data were analyzed using least significant difference and Chi-square test.

**Results:** Omega-3 and -6 intake was  $0.31 \pm 0.29$  and  $5.15 \pm 2.91$  g/day, respectively. Foods high in omega-3 (g/100g) were walnut (9.2), soybean oil (6.4), flaxseed (5.5), tuna (0.92), and sardine (0.9). Foods high in omega-6 (g/100g) were sunflower oil (63.3), corn oil (56.0), soybean oil (53.0), walnut (37.1), and sunflower seed (20.0). There were no correlations among omega-3 and -6 intake from number of meals, number of snacks, and body mass index (BMI). There was a strong correlation between omega-3 and omega-6 intake and age among autistic children. Omega-3 intake was lower than the daily recommended value, which was associated with poor responses to questionnaires assessing mental and behavioral development in children. Regarding omega-6, there was a significant effect on some autism rating scale items with it. The result indicated that the ratio between omega-6 and omega-3 is greater than their normal ratio that must be 2:1.

**Conclusion:** All participants presented omega-3 deficiency. Therefore, it is essential to develop an effective national intervention programs to promote consumption of essential fatty acids.

**Key words:** autism, omega-3, omega-6, fatty acids