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**Efficacy of Laser Acupuncture for Children with Autism Spectrum Disorder: Clinical, molecular and Biochemical Study**

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**Recent Publications ()**

* Mai S Elsheikh , Engy A Ashaat , Abeer Ramadan , Nagwa H Mohamed , Nesma M Elaraby , Hazem Mohmed El-Hariri , Adel F Hashish , Neveen Hassan Nashaat (2023). Efficacy of Laser Acupuncture for Children with Autism Spectrum Disorder: Clinical, Molecular and Biochemical Study. Pediatr Neurol ;15(147) 44-51.
* Abeer Ramadan, Sara F.Sallam, Rasha Nazih, Mai S. Elsheikh, Asmaa Ali, Yasmine Elhsseny, Sally Ishak (2022).Evaluation of IGF-1,TNF-α,and TGF-β Gene Expression after oral vitamin D Supplementation in school-aged children with chronic bronchial asthma. Macedonian Journal of Medical Sciences;10(B):1358-1364
* Mai S. Elsheikh \*, Nagwa H. Mohamed, Asmaa A.A. Alsharkawy (2019) Improvement of asthma control after laser acupuncture and its impact on exhaled 8-isoprostane as an oxidative biomarker in chronic bronchial asthma. Resp. Medicine J ;156 : 15- 19

**Abstract**

Background: Low-level laser acupuncture (LLLA) biostimulation could contribute to improving the symptoms and communication of children manifesting autism spectrum disorder (ASD). Photobiomodulation might influence the level of brain-derived neurotrophic factor (BDNF) and miR-320 expression. The aim was to investigate the influence of LLLA biostimulation on the severity, language abilities, BDNF levels, and miR-320 in a sample of children with ASD.

Methods: The participants with ASD (N ¼ 30) were randomly divided equally into groups: Group I received LLLA therapy twice a week for 12 sessions and Group II did not receive it. Assessments of the severity, language abilities, BDNF level by enzyme-linked immunosorbent assay, and miR-320 expression by reverse transcriptase quantitative polymerase chain reaction were performed before and after the

intervention. A comparison between ASD cases (N ¼ 30) before starting the therapy and neurotypical children (N ¼ 15) regarding miR-320 expression was performed.

Results: Following the intervention, the severity of ASD was reduced and language performance was elevated in both groups. The improvement in Group I was higher with (P ¼ 0.002; 0.03). The plasma BDNF level was reduced only in Group I (P < 0.001). The expression level of miR-320 in Group I did not show a change (P ¼ 0.641). A significant difference in miR-320 expression between children with ASD

and the neurotypical group (P ¼ 0.000) was observed.

Conclusion: This study introduces LLLA therapy as a safe and promising therapeutic procedure for improving the core manifestations and communication abilities and for modulating BDNF levels in children with ASD. The reduced expression of miR-320 showed a good diagnostic value in children with ASD.

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Biography

Mai Elsheikh has her expertise in medical research and clinical studies.She is postdoctoral researcher had obtained her phD in laser application in internal medicine and pediatericsLaser Institute of Enhanced Science , Cairo University,The major objectives of her research program are evaluation and passion in improving the health and wellbeing via laser acupuncture application with evdeince based studies on either chronic or acute diseases with subsequent follow up after completion of the recommenced sessions.Hence, complemantary therapy is urgently required in conjucation with convention treatment.No reported any adverse effects following laser acupuncture sessions.

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