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Dermatoglyphics- a biomarker for predicting Myopia

Myopia is the most common refractive disorder globally. Its onset can occur at birth or during adulthood, with the cause often remaining idiopathic. This project aims to better understand the correlation between dermatoglyphics and myopia, with the goal of identifying potential predictive markers and enhancing understanding of this prevalent visual disorder. Dermatoglyphics, the scientific study of ridge patterns on the fingers, palms, and soles, offers a unique and immutable record of an individual's developmental history, influenced by both genetic and environmental factors. Given the polygenic nature and developmental stability of dermatoglyphic traits, this field provides insights into various genetic and congenital conditions, including myopia. The core of this project involves a detailed analysis of dermatoglyphic patterns in individuals with myopia compared to those with normal eyesight. Fingerprints and palm prints were taken using the traditional ink and paper method, and traits such as ridge count and fingertip patterns (loops, whorls, and arches) were meticulously examined to identify potential correlations with myopic conditions. The analysis revealed that myopic individuals exhibited a higher percentage of ulnar loops on the left little finger and a higher percentage of whorls on the right ring finger compared to those with normal eyesight. Ridge count was consistently higher, particularly on the left little finger, indicating denser ridge patterns in myopic individuals. The atd angle distribution showed no significant difference between groups. These findings suggest that certain dermatoglyphic factors may serve as biomarkers for early diagnosis and intervention in myopia.

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