Abstract

Serum Antioxidant (Vitamin E and Glutathione) in Pre-Senile Cataract Patients and healthy control in Gaza, Palestine: A Case–Control Study †

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† Presented at the Second International Conference on Applied Medical Sciences 2023 (ICAMS-II) and the International Conference on Enhancing Clinical Nutrition in Palestine (ECNAD), Gaza, Palestine, 14–16 March 2023.

Abstract: Pre-senile cataract is the opacity of the crystalline lens of the eye before the age of 50 years. Recently, the incidence of early-onset cataracts has been on the rise. It is closely linked with oxidative stress and antioxidant deficiency. To identify the relationship between serum antioxidant levels (vitamin E and glutathione) and the occurrence of pre-senile cataract, to measure serum vitamin E and glutathione levels in patients with pre-senile cataract and compare them with those of people without a cataract, to determine the effect of dietary habits and socioeconomic status on pre-senile cataract patients and identify the relationship between anthropometric measurements and occurrence of pre-senile cataract, a retrospective case–control study was conducted at an eye hospital in Gaza City. The study consisted of 44 cases of pre-senile cataract patients and 44 cases of region-, sex-, and age-matched controls. Data collection was performed by direct methods that included anthropometric measurement and serum vitamin E and glutathione levels and indirect methods through a structured interview questionnaire. SPSS software version 24 was used to analyze the data. Regarding serum antioxidant status, serum vitamin E and glutathione levels in pre-senile cataract patients were equal to those of healthy controls. The majority of patients were illiterate, married women. An increase in body weight and obesity had a strong association with pre-senile cataract formation. Concerning dietary factors, a high intake of fruits, meat and meat products, starchy food (grains), and healthy snacks was inversely correlated with pre-senile cataract. A direct relationship between vitamin E and glutathione was found. The study concluded that pre-senile cataract is a multifactorial disease and many risk factors (dietary factors, socio-economic factors, medical factors, and anthropometrics factors) play a role in pre-senile cataract formation.

Keywords: pre-senile cataracts; antioxidants; vitamin E; glutathione; Gaza

Author Contributions: Conceptualization, S.F.A. and M.O.J.; methodology, M.O.J. and K.M.W.; software, S.F.A. and M.O.J.; validation, S.F.A., M.O.J. and K.M.W.; formal analysis, M.O.J.; investigation, M.O.J.; resources, S.F.A.; data curation, S.F.A. and M.O.J.; writing—original draft preparation, S.F.A.; writing—review and editing, S.F.A., M.O.J. and K.M.W.; visualization, S.F.A. and M.O.J.; supervision, M.O.J. and K.M.W.; project administration, M.O.J. and K.M.W.; All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.
**Informed Consent Statement:** Informed consent was obtained from all study sample involved in the study.

**Data Availability Statement:** Not applicable.

**Conflicts of Interest:** The authors declare no conflict of interest.

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