

IMPACT OF DENTAL FLUOROSIS ON THE QUALITY OF LIFE AND TREATMENT NEED IN ADOLESCENTS IN KIBOSHO, KILIMANJARO REGION, TANZANIA

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SUMMARY: *Background:* Dental fluorosis (DF) is a hypomineralization of dental enamel caused by the chronic ingestion of fluoride at excessive levels during the formative stages of the dental hard tissues. DF, even when mild, has significant social and psychological effects and affected individuals may be dissatisfied with their appearance. *Aims:* The aims were to study in adolescents: (i) the impact of DF on the quality of life, (ii) the normative and subjective oral treatment needed by individuals with DF, and (iii) the relationship between clinically defined DF, at different diagnostic cut-off points, and the self-rated appearance. *Methodology:* A cross-sectional study was conducted at Kibosho, in the Kilimanjaro region, Tanzania, between August and September 2009. *Results:* The majority of the participants (65.4%) had severe DF (Thylstrup-Fejerskov Index [TFI] 6–9). Most of the students (92.6%) perceived at least one oral impact on their daily performance. *Conclusions:* DF has a great social and psychological impact on the quality of life, including effects on smiling, emotional stability, and having contact with others. By both subjective need and objective assessment, a high need was found for the treatment of dental fluorosis at Kibosho. There was also a low level of awareness that the principal cause of DF at Kibosho was the use of magadi, the evaporate mineral trona, $\text{Na}_2\text{CO}_3 \cdot \text{NaHCO}_3 \cdot 2\text{H}_2\text{O}$, which can be found at the alkaline lakes (crystalline) or as an efflorescent crust (scooped) on the earth's surface in the Rift Valley of East Africa. Magadi is often contaminated with fluoride (0.2–14.9 mg F/g of magadi), as villiaumite (NaF) and kogarkoite ($\text{Na}_2\text{SO}_4 \cdot \text{NaF}$), and is used in food preparation as a tenderiser to speed up the cooking process for food such as beans, maize, and meat, as a flavouring agent, and as a food preservative.

Keywords: Adolescents; Dental fluorosis; Kibosho, Kilimanjaro region, Tanzania; Magadi; Psychological impact; Quality of life; Social impact; Treatment need.

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