



# UNDERSTANDING DENTAL FLUOROSIS AND ITS PREVENTION STRATEGIES

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## INTRODUCTION

Fluoride is an element that plays a critical role in dental health and is mainly obtained from drinking water.

WHO recommends standard fluoride concentrations in water to be 0.5-1 ppm. Excessive fluoride intake can lead to dental fluorosis, a condition that results in hypoplastic or hypomineralization of tooth enamel or dentine.

Dental fluorosis can affect an individual's self-esteem and lead to the development and progression of periodontal diseases.

Naivasha, a town in Nakuru county, Kenya, has reported numerous cases of fluorosis, leading to the installation of a de-fluoridation project to reduce fluoride levels.

High fluoride levels not only affect residents in the area but also people in surrounding regions due to interconnected groundwater systems and food grown in the soil.

With increasing urbanization in Naivasha, more people rely on groundwater which is not monitored nor treated, for consumption.

This increases the risk of exposure to high fluoride intake which can lead to dental fluorosis, a condition that has detrimental oral health, social and financial implications.

## OBJECTIVES

To assess the knowledge and attitude towards dental fluorosis among pregnant women in Naivasha town.

To evaluate the social and financial implications of dental fluorosis on the affected individuals in Naivasha town.

To determine the short-term effects of the de-fluoridation project on the population of Naivasha town.

To provide prevention strategies to the pregnant women that will minimize the future occurrence of dental fluorosis.

To monitor the implementation of the prevention strategies and evaluate their effectiveness after a couple of months.

## METHODOLOGY

The study will be carried out at Naivasha Sub county hospital. The study population will be the pregnant women attending prenatal clinic at the hospital. This study will be a descriptive cross sectional study.

20 pregnant women will be used in the first phase followed by all the women that attend the clinic periodically. Data will be collected through administration of questionnaires, which will be done in the form of an interview.

The women will then collectively be given a talk on fluorosis; its cause, implications and how to prevent its occurrence.

They will also be given pamphlets containing the same information for reinforcement purposes.

## FUTURE STEPS

Adjusting fluoride levels in drinking water by ensuring each household in Naivasha benefits from the defluorination project that was installed by the government. Distribution of fluoride-free dental products such as toothpaste and mouthwash which will help prevent dental fluorosis in individuals who are already receiving adequate fluoride exposure from other sources.

Raising awareness among the residents of Naivasha, especially the women, through public education campaigns which will help people make informed decisions about their fluoride exposure and fluorosis prevention strategies.

Monitoring fluoride intake: Regular monitoring of fluoride intake, especially in children, will help identify individuals at risk of dental fluorosis and allow for early intervention to prevent or minimize its effects.

## CONCLUSION

Dental fluorosis remains to be a silent burden that is not talked about enough.

As a result, individuals who are affected by it remain ignorant, and the disease progresses to the subsequent generations.

It is therefore prudent that the disease occurrence is brought into the light and prevention strategies discussed in order to prevent future occurrence.



Questionnaire



Awareness Tool



References

