

# State of Oral Health of Women in Rural Areas in An Underdeveloped Country: A Prospective Observational Descriptive Study

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## Abstract

### Introduction:

Oral health is important in rural areas. It is necessary to have the good health of the women who have an axial role in the Tunisian rural economy.

The objective of this study was to describe the state of oral health of women in rural areas.

### Materials and methods:

We conducted a prospective observational descriptive study carried out at the delegation of Graïba in Sfax Tunisia within the framework of the medical caravan of the pink train. The form proposed by the World Health Organization for adults was used.

### Results:

We included 121 women. The general sample's characteristics have been described. The prevalence of caries was 37.1%. The DMFT index is 2.5. Consumption of sweets concerned 9.1% of patients. Women had a bad brushing method at 77.7%. Periodontal inflammation affected 91.7% of women (111 patients).

### Conclusion:

The state of oral health of women from rural areas in Tunisia was bad and it is necessary to act to improve it and raise awareness in rural areas by more supervision.

**Keywords:** Oral Health, Women, Rural Areas, Tunisia

## 1. Introduction

The most common oral disease is tooth decay. Experts from the World Health Organisation (WHO) currently rank it as the third most common disease in the world [1] [2] after neoplasia and cardiovascular disease. Tunisia has paid particular attention to women [3] by supervising them and organising medical and dental awareness campaigns. In this context, the Ministry of Health and other partners launched the pink train health caravan initiative [4]. This train travels between several governorates to raise medical awareness among women. It has several stands, including one for dentistry. A survey of women was carried out at this stand. The oral

health objectives of this campaign are:

- An oral health awareness campaign aimed at women.
- Recognising the state of oral health of women in Graïba.
- Draw up a report on the oral health status of the target population

## 2. Materials and methods:

### 2.1. Scope of the study

This is a descriptive cross-sectional study conducted at the railway station in the Graïba delegation in the governorate of

Sfax (Tunisia). This delegation had 15766 inhabitants in 2014 [5] including 7813 women.

## 2.2. Sample:

The survey sample consisted of 121 women attending the health caravan. Information gathering : The entire health survey was carried out on the same day. Two interviewers (public health dentists) collected the statistical data. The material used was a questionnaire, a pair of clean gloves and a tongue depressor for each woman.

## 2.3 Questionnaire:

The questionnaire used in this study is the one proposed by the WHO for adults [6]. Prior agreement was also obtained from the competent authorities to comply with WHO recommendations [6].

## 2.4. Conduct of the survey:

The survey took place on 31 October 2021. The reliability and validity of the data were verified using the method recommended by the WHO [6] using the Kappa statistical test, as the forms were completed by two different interviewers.

## 2.5. Data processing:

Data were entered and processed using the Statistical package for Social Science (IBM SPSS® version 20). The KHI two test was used for the statistical study with a P value of 5%.

## 3. Results:

### 3.1 Overall results:

In this section, the variables characterizing the sample will be detailed. These parameters reflect the characteristics of the

population of the delegation studied as an example of the rural environment.

We included 121 women. Pregnant women examined accounted for 23.1% (28 patients). The prevalence of dental caries was 37.1% (45 patients). The CAO index was 2.5. Women with a single decayed tooth accounted for 11.5% (14 patients). Oral candidiasis was the most common oral condition, accounting for 17% (14 patients). Only 15.7% of women visited a dentist (19 women). Women who brushed their teeth accounted for 64.4% (78 women), with 54 patients (44.6%) brushing once a day. Tea was consumed by 79.3% of the women examined (96 patients). Toothbrush ownership among women was 58.6% (71 patients). Only 22.3% of women (27 patients) brushed their teeth properly. Women with a sweet tooth accounted for 7.4% (9 women). Women who ate greens accounted for 81.8% (99 patients). Periodontal inflammation affected 91.7% of women (111 patients).

### 3.2. Results of the statistical study:

The correlations studied by the KHI two test are dependency correlations. In our study, the statistical factor that varied significantly was the periodontal parameter. The KHI two test is significant when the P value is less than 0.05. The P value is 0.001 for the pair of variables periodontal inflammation and pregnant women, and tends towards 0 for the pair of variables periodontal inflammation and brushing method (Figure 1).

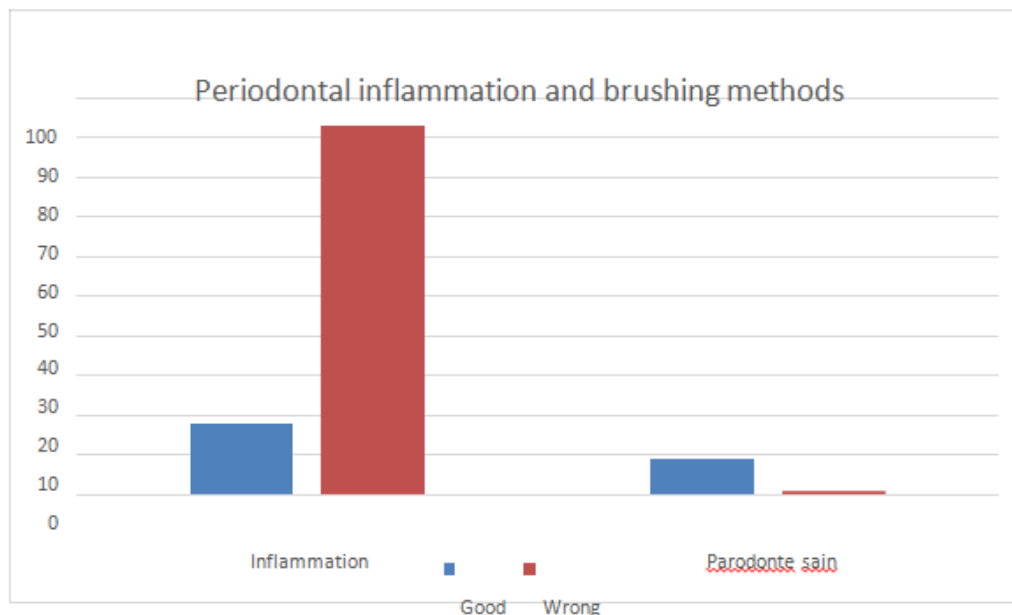


Figure 1: Periodontal inflammation and brushing methods

## 4. Analysis and discussion:

There is one methodological limitation to this work. This relates to the detection of dental caries. The detection of cavities in teeth, the main manifestation of dental caries, is based solely on visual observation. However, the use of probes, lasers or Transillumina-

tion [6] [7] reveal the existence of other types of caries not included in the statistical study. The prevalence of dental caries can be significantly reduced.

This study showed several aspects of the state of oral health among

the women in the population studied. The prevalence of caries is 37.1%. This prevalence is excellent when compared with that of the southern suburbs of Sfax, which is 82.4%. [2]. Parameters related to oral health education, such as previous visits to the dentist, tooth brushing and ownership of a toothbrush, are poor. The diet is low in carbohydrates and balanced, which explains the low incidence of caries. Periodontal health was poor, with periodontal inflammation affecting 91.7% (111 patients). The KHI two test shows us that the factors influencing the state of the periodontium are the brushing method and pregnancy. Poor brushing leaves food in contact with the periodontium, which helps pathogenic bacterial flora to maintain inflammation and limits the protective role of saliva [8]. Women who are hormonally pregnant are more prone to gingivitis or periodontitis [9].

### 5. Conclusion:

This survey showed that the oral health situation of the population in rural areas is poor. If we want to improve the health situation, we need to act quickly to promote oral health. It is recommended that preventive programs in rural areas be stepped up, with more awareness-raising campaigns. Patients should be encouraged to visit the dentist more frequently. Improving medical coverage [10] and dental facilities. Particular attention should be paid to pregnant women and they should be taught proper brushing techniques.

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