

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

” قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا مَا عَلَّمْتَنَا
إِنَّكَ أَنْتَ الْعَلِيمُ الْحَكِيمُ ”

سورة البقرة: الآية ٣٢

Caries Prevalence In Primary School Children In Egyptian Rural Area (Tameia- El Fayoum)

Thesis

*Submitted to the Faculty of Oral and Dental Medicine
Cairo University
In Partial Fulfillment of Requirements of Master Degree in
Pediatric dentistry*

By

***Wesam Mohammed Hassan Ismael
B.D.S. Cairo University
(2003)***

*Faculty Of Oral And Dental Medicine
Cairo University
2010*

Supervisors

Prof.Dr. Kamal El Din M. El Motayam

Professor of Pediatric and Community Dentistry

Faculty of Oral & Dental Medicine

Cairo University

Dr. Osama Ibrahim El Shahawy

Lecture of Pediatric and Community Dentistry

Faculty of Oral & Dental Medicine

Cairo University

Acknowledgement

I am most thankful to **God** for all his kindness and grace, for having granted me the patience to accomplish this work.

No word could be sufficient in expressing my sincere gratitude to **Prof. Dr. Kamal El Din M. El Motayam** Professor of Pediatric and Community Dentistry, Faculty of Oral & Dental Medicine, Cairo University, for his guidance, support, direction and continuous encouragement. It has been my privilege and great pleasure to conduct this work under his supervision.

I would like also to express my sincere gratitude to **Dr. Osama Ibrahim El Shahawy** Lecturer of Pediatric and Community Dentistry, Faculty of Oral & Dental Medicine, Cairo University, for his help, direction and support during this study.

My thanks are extended to **the staff members of Pediatric and Community Dentistry Department**, Faculty of Oral & Dental Medicine, Cairo University, for there kindness.

Dedication

To my parents:

For their endless love and support

To my husband Dr. Ehab Fekry:

*For his ultimate support, endless patience and
encouragement when it was most required.*

To my daughters Nada & Nour

Contents

	Page
Introduction.....	1
Review of Literature.....	3
Aim of the Study.....	34
Materials and Methods.....	35
Results.....	56
Discussion.....	87
Summary.....	95
Conclusion and Recommendations	97
References.....	99
Arabic summary	

List Of Tables

	<i>Page</i>
Table (1) Oral mucosa examination findings.....	58
Table (2): Caries prevalence in the whole sample.....	58
Table (3): dft and DFT indices in urban and rural areas.....	59
Table (4): dft and DFT indices in urban and rural areas relevant to each grade.....	60
Table (5): dft and DFT indices in boys and girls in urban and rural areas.....	62
Table (6): Number of missing teeth due to caries in urban and rural areas.....	64
Table (7): Caries of deciduous and permanent upper and lower anterior teeth.....	65
Table (8): The prevalence of premolars caries.....	67
Table (9): The prevalence of caries in permanent molars.....	68
Table (10): The prevalence of caries in deciduous molars.....	69
Table (11): The bilateral caries in second deciduous molars and first permanent molars.....	70
Table (12): The relation between caries in first permanent molar with caries in second deciduous molar.....	71
Table (13): The prevalence of filled teeth in urban and rural areas.....	72

Table (14): The need for extraction in urban and rural areas.....	73
Table (15): The prevalence of need for filling in urban and rural areas.....	74
Table (16): The prevalence of trauma in deciduous and Permanent teeth.....	75
Table (17): The prevalence of trauma in upper and lower teeth.....	75
Table (18): Frequency and percentages of dft in the whole students sample...	77
Table (19): Frequency and percentages of DFT in the whole sample of students.....	78
Table (20): Frequency and percentages of dft in urban areas students.....	79
Table (21): Frequency and percentages of DFT in urban areas students.....	80
Table (22): Frequency and percentages of dft in rural areas students.....	81
Table (23): Frequency and percentages of DFT in rural areas students.....	82
Table (24): Frequency and percentages of treatment needed in the Whole sample.....	83
Table (25): Frequency and percentages of treatments needed in urban areas.....	84
Table (26): Frequency and percentages of treatments needed in rural areas....	86

List of Figures

	<i>Page</i>
Figure (1) Dental Caries level (Decayed, Missing and Filled Teeth (DMFT) index) among 12- years- old worldwide, December 2004.....	29
Figure (2) Egypt map.....	31
Figure (3) EL- Fayoum governorate map.....	32
Figure (4): Caries prevalence in the whole sample.....	58
Figure (5): Means of dft and DFT in urban and rural students.....	59
Figure (6): dft and DFT in urban and rural areas relevant to each school grade	61
Figure (7): Means of dft and DFT in boys and girls in urban and rural areas.....	63
Figure (8): Number of missing teeth due to caries in urban and rural areas.....	64
Figure (9): Percentage of caries prevalence in deciduous and permanent anterior teeth.....	66
Figure (10): The prevalence of premolars caries.....	67
Figure (11): The prevalence of caries in permanent molars	68
Figure (12): The prevalence of caries in deciduous molars.....	69
Figure (13): The bilateral caries in second deciduous molars and first permanent molars.....	70

Figure (14): The relation between caries in first permanent molar and second deciduous molar.....	71
Figure (15): The prevalence of filled teeth without decay in urban and rural students.....	72
Figure (16): The need for extraction in urban and rural students.....	73
Figure (17): The prevalence of need for filling in urban and rural students.....	74
Figure (18): The prevalence of trauma in deciduous and permanent teeth.....	76
Figure (19): The prevalence of trauma in upper and lower teeth.....	76

Abstract

The present study was undertaken to assess caries prevalence among primary school children in Egyptian countryside represented by the city of Tameia, El Fayoum governorate. We selected 12 Egyptian governmental primary schools in Tameia at El –Fayoum which divided into 2 groups; group 1: Consists of 6 governmental schools in Tameia city (urban) and group 2: Consists of 6 governmental schools around Tameia city at El- Fayoum (Rural). The teeth and the mouth examined using WHO Basic method of oral health survey (1997). DFT and dft data were presented as means and standard deviation (SD) values. Student's t-test was used to compare between urban and rural areas. **Conclusion:** the dft and DFT scores, the results of this study revealed that urban students showed higher means (dft 2.75 and DFT 0.81) than rural students (dft 2.41 and DFT 0.52) but this difference was not statistically significant for both indices.

Keywords: Dental caries, Childhood caries, Caries prevalence in urban and rural area.

Introduction

Introduction

There has been remarkable progress in the reduction of tooth decay in the U.S. over the past 30 years. Nevertheless, dental caries continues to be a significant problem for many children. Dental caries continues to be the most common infectious disease of childhood.

During the past few decades, changes have been observed in the prevalence and distribution of dental caries in the population. This disease is endemic in specific sectors of the population, especially the economically disadvantaged. Some children seem to have a mouthful of cavities, while other children have beautiful teeth. Eighty percent of the dental caries is found in only 25 percent of the children. More than half of all children in the U.S. have dental caries by the second grade of school. By the age of 17, approximately 80% of young people have had a dental cavity.

Dental caries is an infectious, communicable disease, which causes destruction of teeth by acid-forming bacteria found in dental plaque. The most important concept to remember is that caries is a dynamic disease process, and not a static problem. Secondly, before a cavity is formed in the tooth, the caries infection can actually be reversed.

Many industrialised countries have experienced a decline in dental caries prevalence among children over the past decades. This trend of caries reduction may be ascribed to several factors of which the most important are improved oral hygiene, a more sensible approach to sugar consumption, effective use of fluorides, and school-based preventive programmes. Against this, increasing levels of dental caries have been found in some developing countries, especially for those countries where preventive programmes have not been established.

The public oral health services must be generally oriented towards treatment and mostly delivered from hospitals or health care centres. Since the late 1980s, the health authorities have given emphasis to preventive oral care and oral health education in order to improve the oral health behaviour of the public. With respect to the child population, behaviour modification may be a family responsibility, but oral health education could also be given by school teachers.

Dental caries can be prevented by joint action of communities, professionals and individuals aimed at reducing the impact of sugar consumption and emphasizing the beneficial impact of fluoride. In many low- and middle-income countries, however, the number of oral health professionals and access to oral health services are limited. For these reasons professionally applied fluorides have little public health relevance in these countries. Across the world the most important approaches to the effective use of fluorides are automatic fluoridation through water, salt or milk, and self-applied fluoride through use of affordable fluoridated toothpaste.

Review of Literature