

**THE EFFECT OF MODE OF DELIVERY
AND OTHER MATERNAL AND INFANT
FACTORS ON ACQUISITION OF SOME
ORAL MICROFLORA IN A GROUP OF
EGYPTIAN INFANTS**

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*I dedicate this thesis to all my family and friends for their
endless love and support*

*My Father, for all the encouragement and motivation to
fight and face all the obstacles and to keep pushing. You have been
the best symbol of a great father, I Hope I always make you proud*

*My Mother, the symbol of love and giving, she always leads
me through valleys of darkness with light and hope. Her
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of my journey but I am sure your pure soul is always there for me
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List of contents

Title	Page No.
List of Figures	I
List of Tables	V
List of Abbreviations	VII
Introduction	1
Review of Literature	3
Aim of the Study	29
Subjects, ,Materials and Methods	30
Results	38
Discussion	78
Summary	92
Conclusions	95
Recommendations	96
References	97
Appendix	-
Arabic Summary	-

List of figures

Figure No.	Title	Page No.
1	Data collection via questionnaire interview	32
2	Salivary sample collection from mother – infant pair	35
3	S.mutans and S. mitis colonies on Mitis Salivarius Agar	37
4	Bar chart representing acquisition of S. mutans in infants at 3 and 6 months in relation to mode of child delivery	42
5	Bar chart representing acquisition of S. mitis in infants at 3 and 6 months in relation to mode of child delivery	42
6	Bar chart representing counts of S. mutans in infants at 3 and 6 months in relation to mode of child delivery	44
7	Bar chart representing counts of S. mitis in infants at 3 and 6 months in relation to mode of child delivery	44
8	Bar chart representing acquisition of S. mutans in infants at 3 and 6 months in relation to maternal S. mutans counts	46
9	Bar chart representing acquisition of S. mitis in infants at 3 and 6 months in relation to maternal S. mutans counts	46
10	Bar chart representing acquisition of S. mutans in infants at 3 and 6 months in relation to maternal S. mitis	48
11	Bar chart representing acquisition of S. mitis in infants at 3 and 6 months in relation to maternal S. mitis	48
12	Bar chart representing acquisition of S. mutans in infants at 3 and 6 months in relation to maternal DMFT	50

13	Bar chart representing Acquisition of S. mitis in infants at 3 and 6 months in relation to maternal DMFT	50
14	Correlation between infants' S. mutans mean counts and maternal DMFT scores at three months	52
15	Correlation between infants' S. mutans mean counts and maternal DMFT scores at six months	52
16	Correlation between infants' S. mitis mean counts and maternal DMFT scores at three months	53
17	Correlation between infants' S. mitis mean counts and maternal DMFT scores at six months	53
18	Correlation between mean maternal S. mutans counts and mean S. mutans counts in infants at three months	54
19	Correlation between mean maternal S. mutans counts and mean S. mutans counts in infants at six months	54
20	Correlation between mean maternal S. mutans counts and mean S. mitis counts in infants at three months	55
21	Correlation between mean maternal S. mutans counts and mean S. mitis counts in infants at six months	55
22	Correlation between mean maternal S. mitis counts and mean S. mutans counts in infants at three months	56
23	Correlation between mean maternal S. mitis counts and mean S. mutans counts in infants at six months	56
24	Correlation between mean maternal S. mitis counts and mean S. mitis counts in infants at three months	57
25	Correlation between mean maternal S. mitis counts and mean S. mitis counts in infants at six months	57

26	Bar chart representing acquisition of <i>S. mutans</i> in infants at 3 and 6 months in relation to infants' gender	59
27	Bar chart representing acquisition of <i>S. mitis</i> in infants at 3 and 6 months in relation to infants' gender	59
28	Bar chart representing counts of <i>S. mutans</i> in infants at 3 and 6 months in relation to infants' gender	61
29	Bar chart representing counts of <i>S. mitis</i> in infants at 3 and 6 months in relation to infants' gender	61
30	Bar chart representing acquisition of <i>S. mutans</i> in infants at 3 and 6 months in relation to presence of siblings	63
31	Bar chart representing acquisition of <i>S. mitis</i> in infants at 3 and 6 months in relation to presence of siblings	63
32	Bar chart representing counts of <i>S. mutans</i> in infants at 3 and 6 months in relation to presence of siblings	65
33	Bar chart representing counts of <i>S. mitis</i> in infants at 3 and 6 months in relation to presence of siblings	65
34	Bar chart representing acquisition of <i>S. mutans</i> in infants at 3 and 6 months in relation to the introduction of complementary food and beverage	67
35	Bar chart representing acquisition of <i>S. mitis</i> in infants at 3 and 6 months in relation to the introduction of complementary food and beverage	67
36	Bar chart representing counts of <i>S. mutans</i> in infants at 3 and 6 months in relation to the introduction of complementary food and beverage	69
37	Bar chart representing counts of <i>S. mitis</i> in infants at 3 and 6 months in relation to the introduction of complementary food and beverage	69

38	Bar chart representing acquisition of S. mutans in infants at 3 and 6 months in relation to the use of sweetened pacifier	71
39	Bar chart representing acquisition of S. mitis in infants at 3 and 6 months in relation to the use of sweetened pacifier	71
40	Bar chart representing counts of S. mutans in infants at 3 and 6 months in relation to the use of sweetened pacifier	73
41	Bar chart representing counts of S. mitis in infants at 3 and 6 months in relation to the use of sweetened pacifier	73
42	Bar chart representing acquisition of S. mutans in infants at 3 and 6 months in relation to the nursing pattern	75
43	Bar chart representing acquisition of S. mitis in infants at 3 and 6 months in relation to the nursing pattern	75
44	Bar chart representing counts of S. mutans in infants at 3 and 6 months in relation to the nursing pattern	77
45	Bar chart representing counts of S. mitis in infants at 3 and 6 months in relation to the nursing pattern	77

List of tables

Table No.	Title	Page No.
1	Mean age of mothers	40
2	Acquisition of S. mutans and S. mitis in infants at 3 and 6 months in relation to mode of child delivery	41
3	Counts of S. mutans and S. mitis in infants at 3 and 6 months in relation to mode of child delivery	43
4	Acquisition of S. mutans and S. mitis in infants at 3 and 6 months in relation to maternal S.mutans counts	45
5	Acquisition of S. mutans and S. mitis in infants at 3 and 6 months in relation to maternal S.mitis counts	47
6	Acquisition of S. mutans and S. mitis in infants at 3 and 6 months in relation to maternal DMFT	49
7	Correlation between S. mutans and S. mitis counts in infants at 3 and 6 months and maternal DMFT, materanal S. mutans and S. mitis counts	51
8	Acquisition of S. mutans and S. mitis in infants at 3 and 6 months in relation to infants' gender	58
9	Counts of S. mutans and S. mitis in infants at 3 and 6 months in relation to infants' gender	60

10	Acquisition of <i>S. mutans</i> and <i>S. mitis</i> in infants at 3 and 6 months in relation to presence of siblings	62
11	Counts of <i>S. mutans</i> and <i>S. mitis</i> in infants at 3 and 6 months in relation to presence of siblings	64
12	Acquisition of <i>S. mutans</i> and <i>S. mitis</i> in infants at 3 and 6 months in relation to the introduction of complementary food and beverage	66
13	Counts of <i>S. mutans</i> and <i>S. mitis</i> in infants at 3 and 6 months in relation to the introduction of complementary food and beverage	68
14	Acquisition of <i>S. mutans</i> and <i>S. mitis</i> in infants at 3 and 6 months in relation to the use of sweetened pacifier	70
15	Counts of <i>S. mutans</i> and <i>S. mitis</i> in infants at 3 and 6 months in relation to the use of sweetened pacifier	72
16	Acquisition of <i>S. mutans</i> and <i>S. mitis</i> in infants at 3 and 6 months in relation to the nursing pattern	74
17	Counts of <i>S. mutans</i> and <i>S. mitis</i> in infants at 3 and 6 months in relation to the nursing pattern	76

List of Abbreviations

<i>Abb.</i>	<i>Full term</i>
AAP	The American Academy of Pediatrics
AAPD	American Academy of Pediatric Dentistry
AWHONN	The Association of Women's Health, Obstetric and Neonatal Nurses
CDCP	The Center for Disease Control and Prevention
C–section	Cesarean-section
DMFT/dmft	D/d = decayed M/m = missing F/f = filled T/t = tooth
EAPD	European Academy of Pediatric Dentistry
ECC	Early childhood caries
HS	High significant difference
MDSA	Maternally Derived Streptococcus mutans Disease
MS	Mutans Streptococci
NS	No significant difference
S	Significant difference
S.mitis	Streptococcus mitis
S.mutans	Streptococcus mutans
S.oralis	Streptococcus oralis
S.salivarius	Streptococcus salivarius

S.sobrinus	Streptococcus sobrinus
SD	Standard deviation
S-ECC	Severe Early Childhood Caries
SIgA	secretary immunoglobulinA
USDHHS	The United State Department for Health Education and Human Service
WHO	World Health Organization

Introduction

Dental caries affects humans of all ages throughout the world and remains the major dental public health problem among school children globally. ⁽¹⁾

Dental caries can be defined as a bacterial disease of the calcified tissues of the teeth. It is characterized by demineralization of the inorganic substrate and destruction of the organic substrate of the tooth. ⁽²⁾ It is a major cause of tooth loss, pain and discomfort worldwide; especially amongst children. ⁽³⁾

Dental caries has a multifactorial etiology, and although it is a preventable disease, its prevention is complicated by the complex interaction of cultural, social, behavioral, nutritional, and biological risk factors that are associated with its initiation and progression. ⁽⁴⁾

Early childhood caries (ECC) is a virulent type of dental caries. It is characterized by early onset and rapid progression. ECC is a major public health problem, being the most common chronic infectious childhood disease, which is hard to control. Although it's not life-threatening, its impact on individuals and communities is extensive, resulting in pain, impairment of function, harmful effects on the child's growth rate, body weight, and ability to thrive, thus reducing quality of life. ⁽⁵⁾

ECC is etiologically associated with bacterial colonization in deciduous dentition. Mutans streptococci (MS), especially *Streptococcus mutans* (*S.mutans*) and *Streptococcus sobrinus* (*S.sobrinus*), have been related to dental caries based on well-defined cariogenicity. ⁽⁶⁻⁹⁾

A body of evidence suggests that children acquire *S. mutans* primarily from their mothers,⁽¹⁰⁻¹³⁾ and possibly other sources.^(14,15)

Some studies suggested that mode of child delivery whether cesarean-section (C-section) or vaginal can lead to differences in the initial foundation of microbiota in the gut and, consequently, contribute to variations in child health. Whether the mode of child delivery can alter the infant's oral microbiota and the development of ECC in the future still remains unclear.^(16,17)

Therefore, the main objective of the present study was to investigate the relation between the mode of child delivery (vaginal versus C-section), and other maternal and infant factors to the colonization of oral microflora in infants.