# Dental Caries Experience and its Association with *Streptococcus mutans-Candida albicans* Counts in a Group of Egyptian Children

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# ***List of abbreviations***

| **Abbreviation** | **Full term** |
|---|---|
| AAP | American Academy of Pediatrics |
| AAPD | American Academy of Pediatric Dentistry |
| AEP | Acquired enamel pellicle |
| Bp | Base pair |
| *C.albicans* | Candida albicans |
| CFUs | Colony forming units |
| CI | Confidence interval |
| Deft | Decayed, missing or indicated for extraction deciduous teeth |
| Dmft | Decayed, missing or filled deciduous teeth |
| DMFT | Decayed, missing and filled permanent teeth |
| DNA | Deoxyribonucleic acid |
| ECC | Early childhood caries |
| ECP | Extracellular polysaccharides |
| EDTA | Ethylene diamine tetra acetic acid |
| Gtf | Glucosyltransferase |
| MSA | Mitis salivarius agar |

| | |
|---|---|
| *n.s* | Non significant |
| OR | Odds ratio |
| PCR | Polymerase chain reaction |
| RNA | Ribonucleic acid |
| RT | Reverse transcription |
| Saps | Secreted aspartyl proteinases |
| SDA | Sabouraud dextrose agar |
| S-ECC | Severe early childhood caries |
| SES | Socio-economic status |
| sIgA | Secretory immunoglobulin A |
| *S.mutans* | Streptococcus mutans |
| spp | Species |
| SPSS | Statistical Package for Social Science |
| UV | Ultraviolet |
| WHO | World Health Organization |

# Introduction

Oral health is an integral part of general health and is extremely pivotal in the normal development of a child. Despite the great achievements in oral health globally, dental caries remains a major public health concern among children. It has been regarded as the second most prevalent chronic disease and the most common oral disease worldwide [1, 2].

Early childhood caries (ECC) is a virulent form of dental caries. It is a disconcerting type of tooth decay that most frequently affects underprivileged preschool children. The early onset and rapid progression of ECC result in rampant destruction of the primary teeth [3].

Dental caries is a multi-factorial disease. Identifying the specific risk factors of the disease is fundamental for the effective early identification of 'at risk' children; it is the first milestone in reducing the incidence and severity of dental caries in future generations. Among the commonly recognized risk factors, the microbial factor is the most challenging [4].

The oral cavity represents a highly diverse, highly dynamic microbial community with over 700 microbial species (spp.). Mutans Streptococci; including *Streptococcus mutans* (*S.mutans*) and *Streptococcus sobrinus* have been always considered significant contributors to tooth decay. Other contributors are non-mutans Streptococci, *Lactobacillus, Actinomyces, Bifidobacterium,* and *Veillonella* spp [5,6].