

Alanzi A<sup>1\*</sup>, Behzadi S<sup>2</sup>, Alsumait A<sup>2</sup>, Baskaradoss J<sup>1</sup>

1 College of Dentistry – Kuwait University - Kuwait  
2 Ministry of Health - Kuwait

## INTRODUCTION

- Early childhood caries (ECC) is a significant and prevalent oral health issue among young children, aged under six years.
- If left untreated, ECC can adversely affect a child's development.
- It may cause oral health-related quality of life issues, such as dental pain, difficulty chewing, weight loss, and sleep disturbances

## OBJECTIVE

To investigate the severity of ECC and its impact on the oral health-related quality of life (OHRQoL) of preschool children and their families.

## METHODOLOGY

- 1 A cross-sectional study was conducted in 22 randomly selected kindergarten schools across all six governorates in Kuwait.
- 2 Written informed consent forms were obtained from caregivers.
- 3 Clinical examinations were performed by six trained & calibrated general dentists.
  - Caries experience was recorded using decayed (d), missing (m), and filled (f) tooth (t)/surfaces (s) indices (dmft/s) and merged ICDAS criteria.
  - Caries severity (clinical consequences of untreated caries) was assessed using pufa index, which involves pulp involvement, ulceration, fistula, and abscess.
- 4 Demographic data were collected using questionnaires. OHRQoL was obtained using the validated Early Childhood Oral Health Impact Scale (A-ECOHIS), which consists of 13 questions split into two parts: child & family impact section

Table 1. Difference in dmft, dmfs and pufa indices among children.

Variables	Kg1	Kg2	Total
	(48–59 mos)	(60–71 mos)	
	Mean (SD)	Mean (SD)	Mean (SD)
dmft	5.63 (4.3)	7.06 (4.5)	6.45 (4.5)
dt	5.14 (3.9)	6.09 (4.1)	5.68 (4.1)
mt	0.16 (0.8)	0.37 (1.1)	0.28 (0.9)
ft	0.34 (1.1)	0.60 (1.4)	0.49 (1.3)
dmfs	10.22 (10.1)	15.1 (14.8)	13.0 (14.1)
ds	7.90 (9.1)	10.26 (10.4)	9.25 (9.9)
ms	0.81 (4.1)	1.85 (5.3)	1.40 (4.9)
fs	1.54 (5.1)	2.99 (7.1)	2.37 (6.4)
pufa	0.1 (0.4)	0.15 (0.5)	0.13 (0.4)
pulp	0.05 (0.3)	0.07 (0.3)	0.06 (0.3)
ulcer	0 (0.1)	0.02 (0.2)	0.01 (0.1)
fistula	0.01 (0.1)	0.01 (0.1)	0.01 (0.1)
abscess	0.03 (0.2)	0.05 (0.2)	0.04 (0.2)

Table 2. Multivariate Poisson regression model for overall scores of A-ECOHIS scores and clinical factors after adjusting for selected socio-demographic variables (age, gender, birth order, parent's education).

Variables	Child Level		Family Level	
	Adjusted RR (95% CI)	P value	Adjusted RR (95% CI)	P value
<b>Caries Experience</b>				
None	Ref		Ref	
1 or more	4.82 (4.21– 5.52)	<0.001	4.79 (3.81–6.01)	<0.001
<b>PUFA</b>				
None	Ref		Ref	
1 or more	1.27 (1.15–1.40)	<0.001	1.02 (0.89–1.18)	0.74
<b>ICDAS</b>				
Sound	Ref		Ref	
Initial	0.35 (0.28–0.52)	<0.001	0.54 (0.44–0.66)	<0.001
Moderate	0.21 (0.19–0.24)	<0.001	0.40 (0.33–0.49)	<0.001
Extensive	0.27 (0.24–0.30)	<0.001	0.40 (0.34–0.49)	<0.001

## RESULTS

- A total of 1,783 children completed oral examination.
- 892 children completed both examination and questionnaires.
- There were 764 KG1 (48–59 mos) & 1,019 KG2 (60–71 mos), with 48.6% males and 51.4% females.
- Overall caries prevalence was 88.6%, with mean dmft = 6.45 ± 4.5 and mean dmfs = 13.0 ± 14.1.
- Extensive lesions (ICDAS 5–6) were 63.4%.
- 9.3% of children exhibited clinical consequences of untreated caries, with pulp involvement in 4.8% and abscesses in 3.5%
- Low mother's education was significantly related to high pufa scores (p = .043).
- Caries experience was significantly associated with higher child and family A-ECOHIS scores, indicating poorer oral health-related quality of life (p<.001).
- Pufa scores were only significantly associated with higher child A-ECOHIS scores (p<.05).
- Lower father's educational level and higher birth order were associated with higher child and family A-ECOHIS scores (p<.01).

## CONCLUSION

Early childhood caries had a considerable negative impact on the oral health-related quality of life of preschool children and their families. Preventive strategies and early intervention are essential to reduce disease burden and improve overall child health and well-being.