

# MATERNAL OUTCOMES & EARLY CHILDHOOD CARIES – A SYSTEMATIC REVIEW

## INTRODUCTION

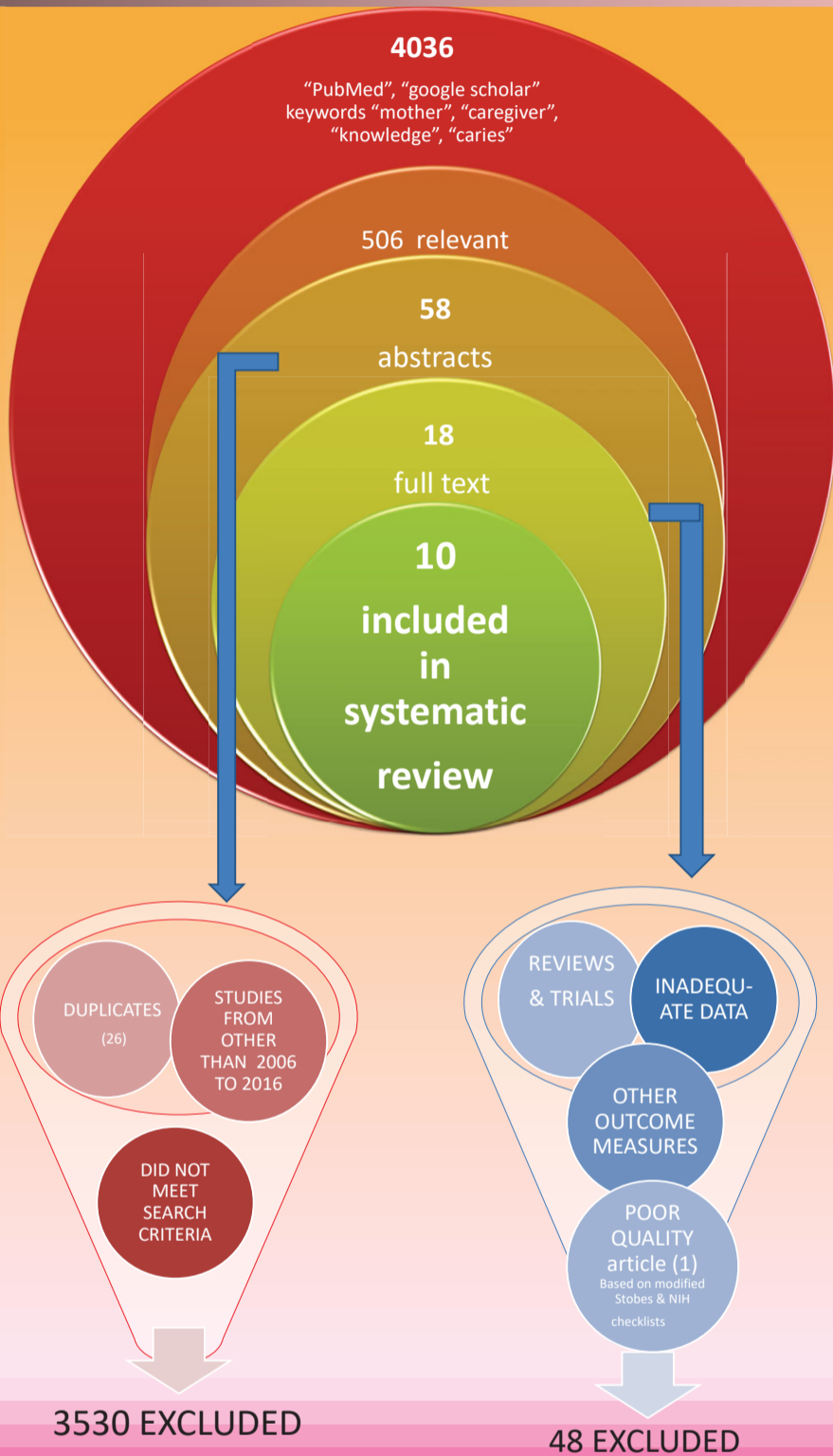
Early childhood caries (ECC) is a serious oral health problem that afflicts infants and toddlers.<sup>1,2</sup> The aetiology of ECC is complex and involves the interaction of social, behavioural, and microbiological factors which are directly influenced by parental factors.

Numerous studies have correlated maternal factors and ECC. The objective of this review is to assess the maternal predictors which can be targeted to prevent ECC.

## AIM AND OBJECTIVES

1. To assess the effect of maternal factors on early childhood caries.
2. To assess the evidences of association between maternal factors and early childhood caries.

## MATERIALS AND METHOD



## RESULT

S. NO	FIRST AUTHOR & YEAR	SAMPLE SIZE (age)	INDEPENDENT VARIABLE (MATERNAL)	RESULT
1	Alessandra <sup>3</sup> (2014)	2395	Feeding,, SES, Smoking	OR*=6.75,7.14,0.21
2	Ray M <sup>4</sup> (2012)	816	Feeding	OR=0.8(Mangara), OR=1.4(Kampala)
3	Tsuguhiko K <sup>5</sup> (2015)	43 383	Education, Smoking status & feeding	(40% v/s 34%)*, (41% V/S 36%)* & OR = 1.03 (0.93 to 1.14)
4	Robert J. S <sup>6</sup> (2013)	431	Education & Smoking	(28.2% V/S 20%)& (28.1% V/S 18.6%)
5	Santhebachalli PS <sup>7</sup> (2013)	2000	Duration of breast feeding/day	<6months = (32%) , 6m-1yr = (40.8%) 1yr-1.5yr = (50.1%) , 1.5-2yr = (60.2%)
6	Ridhi N <sup>8</sup> (2013)	512	A)Educational level B) Socio economic Status (SES)	A) (51% V/S 17.4%)* B)OR= 4.8 (1.06-7.6)*
7	Sarumathi T <sup>9</sup> (2013)	527	A) SES B) Educational level	A) OR = 4.762 * B) B) OR=3.606 *
8	Tove I W <sup>10</sup> (2011)	1348	A)Smoking B)Educational level	A)OR=1.9 B) OR=2
9	J.A Weintrobe <sup>11</sup> (2010)	387	Caries	OR= 1.85
10	Nazan KE <sup>12</sup> (2006)	101	A) Educational level B) Feeding duration 12 months V/S >12 months	A) 43% V/S 56% (S.mutans) 03% V/S 14% (L.bacilli) B) 34% V/S 66% (S.mutans) 44% V/S 56% (L.bacilli)

Maternal Education: ≤12 class v/s > 12 class ; Maternal Smoking: smoker v/s non smoker; CS=Cross sectional ; C=Cohort, \*= significant

Studies evaluating the role of maternal education, smoking , breast feeding, and socio economic status found a pooled OR of 2.09 (1.15-3.82)(I<sup>2</sup>= 94.1%, p=0.001), 1.2 (1.16-1.3)(I<sup>2</sup>= 0%, p=0.001), 2.9 (0.41-20.9)(I<sup>2</sup>= 99.6%, p=0.001) and 5.8 (2.8-12.2)(I<sup>2</sup>= 85.7%, p=0.001) respectively. There was considerable heterogeneity in feeding and education.

LIMITATION: Many studies could not be included because of pooled or incomplete results.



## DISCUSSION

In this review, cross sectional studies from 2006 to 2016 were included. Studies have highlighted the propinquity between ECC and maternal factors, focussing on limited maternal features, i.e. maternal education, smoking habits, breast feeding, and socioeconomic status, which influence ECC. No regression studies were present. A few of cohort studies were intervention-based studies and hence excluded. The evidence that maternal education is inversely related to ECC is very strong. Maternal smoking is directly proportional to ECC, while the relationship with socioeconomic status is inconclusive. Breastfeeding has shown mixed results, with the data from the most heavily weighted study showing an inverse relationship.

## CONCLUSION & DENTAL PUBLIC HEALTH SIGNIFICANCE:

This review indicates a great effect of maternal factors on early childhood caries, which, if monitored, could bring down the ECC prevalence. Prevention of ECC requires a holistic approach targeting maternal predictors (mother's education, lifestyle, and nursing practices ), the child, and the environment.

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