Journal of Neonatal Surgery
ISSN(Online): 2226-0439
Vol. 14, Issue 14s (2025)
https://www.jneonatalsurg.com

OPEN ACCESS

To Assess The Impact Of Socioeconomic Factors On Deciduous Teeth Eruption Among Infants Born After Low-Risk Pregnancy And Infants Diagnosed With Intrauterine Growth Restriction (IUGR)

Dr. Vinod Kambli[1], Dr. Shweta Purohit[2], Dr. Trisha Mehta[3], Dr. Ashesh Gautam[4], Dr. Nayanika Poddar[5], Dr. Madhur Nitin Mutha[6]

[1]Reader/Associate Professor, Department of Conservative Dentistry and Endodontics, D Y Patil Dental School Charholi Pune, Ajinkya D Y Patil knowledge city, Maharashtra, India;

Email ID: drvinod05@rediffmail.com;

[2]MDS, Conservative Dentist and Endodontist, Private Practitioner, Beawar,

Email ID: Shwetapurohit0108@gmail.com;

[3]Lecturer, Department of Oral Pathology and Microbiology, Dasmesh Institute of Research and Dental Sciences, Faridkot, Punjab, India,

Email ID: mehtatrisha21@gmail.com;

[4]Reader, Department of Pediatric and Preventive Dentistry, Awadh Dental College & Hospital, Jamshedpur, Jharkhand, India,

Email ID: ashesh_gautam@yahoo.co.in;

[5]Post Graduate, Department of Pediatric and Preventive Dentistry, Awadh Dental College & Hospital, Jamshedpur, Jharkhand, India

Email ID: nayanikapoddar@gmail.com;

[6]Postgraduate Student, Department of Pediatric and Preventive Dentistry, R.K.D.F. Dental College and Research Centre, Bhopal, Madhya Pradesh, India,

Email ID: maddymudda56@gmail.com

***Corresponding Author**

Dr. Vinod Kambli

Reader/Associate Professor, Department of Conservative Dentistry and Endodontics, D Y Patil Dental School Charholi Pune, Ajinkya D Y Patil knowledge city, , Maharashtra, India;

Email ID: drvinod05@rediffmail.com

Cite this paper as: Dr. Vinod Kambli, Dr. Shweta Purohit, Dr. Trisha Mehta, Dr. Ashesh Gautam, Dr. Nayanika Poddar, Dr. Madhur Nitin Mutha, (2025) To Assess The Impact Of Socioeconomic Factors On Deciduous Teeth Eruption Among Infants Born After Low-Risk Pregnancy And Infants Diagnosed With Intrauterine Growth Restriction (IUGR). *Journal of Neonatal Surgery*, 14 (14s), 537-543.

ABSTRACT

Aim: To assess the impact of socioeconomic factors on deciduous teeth eruption among infants born after low-risk pregnancy and infants diagnosed with intrauterine growth restriction (IUGR).

Material and Methods: This cross-sectional observational study included 110 infants aged 6–18 months, divided equally into two groups: infants born after low-risk pregnancies (control group) and those with IUGR. Demographic, perinatal, and socioeconomic data were collected through interviews and medical records. Clinical oral examinations were conducted to assess the presence and number of erupted deciduous teeth. Statistical analyses included t-tests, chi-square tests, and multivariate regression to identify associations between IUGR, socioeconomic variables, and tooth eruption.

Results: Infants with IUGR had significantly lower birth weights ($p < 0.001$) and gestational ages ($p = 0.003$) than controls. Socioeconomic disadvantages, including lower parental education, income, and healthcare access, were more prevalent in the IUGR group. Delayed tooth eruption was significantly higher in IUGR infants (50.91%) compared to controls (20.00%, $p = 0.001$). Multivariate analysis revealed IUGR as an independent negative predictor of the number of erupted teeth ($\beta = -1.25$, $p = 0.002$), while maternal education, household income, and healthcare access were positively associated.

Conclusion: IUGR significantly delays the eruption of primary teeth, a delay further exacerbated by socioeconomic disadvantage. These findings underscore the importance of early dental and developmental surveillance in at-risk populations

and highlight the need for public health efforts to address socioeconomic disparities.

Keywords: *Tooth eruption, IUGR, socioeconomic factors, infant health, early childhood development*

1. INTRODUCTION

Tooth eruption is a fundamental milestone in early childhood development, marking the progression of physical growth and biological maturation. Deciduous teeth, commonly known as baby teeth, typically begin to erupt during infancy, providing essential functions such as aiding in nutrition, speech development, and guiding the eruption of permanent teeth. While the timing of tooth eruption may vary from child to child, significant deviations from the normative schedule can signal underlying developmental concerns. One of the key factors influencing this variation is intrauterine growth restriction (IUGR), a condition in which a fetus fails to achieve its genetically determined growth potential in the womb. IUGR has been linked to a range of postnatal health complications, including delayed development and altered physiological patterns, making it a critical area of concern when assessing early life health indicators such as tooth eruption.[1]

The intrauterine environment plays a vital role in determining a child's growth trajectory, and disruptions during gestation can lead to long-term consequences. Infants diagnosed with IUGR often exhibit a slower rate of physical and neurological development. This can include delayed milestones such as sitting, crawling, and walking — and potentially, the delayed eruption of deciduous teeth. In contrast, infants born from low-risk pregnancies typically follow a more predictable developmental timeline, assuming adequate nutrition and general health postnatally. Comparing these two groups can help uncover how prenatal conditions influence early oral development, with tooth eruption serving as a measurable and observable developmental marker.[2]

However, prenatal factors are not the only contributors to variability in tooth eruption. Socioeconomic status (SES) — encompassing elements such as family income, parental education, occupation, access to healthcare, and living conditions — can significantly influence both prenatal and postnatal development. SES shapes access to adequate nutrition, quality medical care, health literacy, and environmental safety, all of which are essential for optimal growth. In communities facing economic hardship, expectant mothers may receive less prenatal care, experience higher levels of stress, or have limited access to nutritious food, potentially increasing the likelihood of complications like IUGR. Similarly, in the postnatal period, SES continues to exert influence through feeding practices, hygiene, exposure to environmental toxins, and availability of pediatric dental care, all of which can impact the timing and sequence of tooth eruption.[3]

Understanding the role of socioeconomic factors is especially critical when comparing tooth eruption between infants with IUGR and those from low-risk pregnancies. Even within these two groups, SES may function as a modulating variable — potentially amplifying or mitigating the effects of prenatal health status. For example, an infant with IUGR born into a high-SES family may receive more effective interventions and supportive care, potentially minimizing developmental delays, including delayed tooth eruption. Conversely, an infant from a low-risk pregnancy but raised in a low-SES environment might experience delays due to inadequate postnatal nutrition or exposure to chronic stressors.[4]

Furthermore, parental knowledge and attitudes about health and development can vary significantly by socioeconomic background. Caregivers from more advantaged backgrounds may be more aware of developmental milestones and more proactive in seeking medical or dental evaluations, leading to earlier identification and management of potential issues. On the other hand, families with fewer resources might not prioritize or have access to pediatric dental assessments, possibly resulting in underreported or undiagnosed delays in tooth eruption. This disparity in health-seeking behavior further complicates the picture and underscores the importance of a comprehensive understanding of how SES intersects with both biological and behavioral aspects of development.[5]

It is also worth considering the broader social and environmental context that accompanies different SES levels. Factors such as housing stability, neighborhood safety, exposure to pollutants, and parental mental health can indirectly affect infant development. For example, infants living in environments with high exposure to secondhand smoke or environmental toxins may face an increased risk of developmental delays, including oral health issues. Similarly, maternal stress — often heightened in low-SES households — can influence hormonal and metabolic processes during pregnancy, potentially affecting fetal growth and increasing the risk of IUGR. These complex interrelations make it clear that assessing tooth eruption is not merely a biological inquiry but one that must consider the broader socioeconomic environment.[6]

Assessing the impact of socioeconomic factors on deciduous tooth eruption among infants with IUGR compared to those from low-risk pregnancies provides a valuable window into how early-life conditions shape child development. Such analysis can help identify vulnerable populations and inform targeted interventions aimed at mitigating developmental delays. By recognizing the multifaceted roles that both biological conditions like IUGR and external socioeconomic influences play, healthcare providers and policymakers can work toward creating more equitable healthcare systems and preventative

strategies that promote healthier developmental outcomes for all children, regardless of their prenatal history or socioeconomic background.[7]

In sum, deciduous tooth eruption is a sensitive marker of overall development, influenced by a range of factors beginning in utero and continuing through early childhood. Exploring the interplay between intrauterine growth patterns and socioeconomic conditions offers a more holistic understanding of infant health and can contribute to more tailored approaches in pediatric care and public health planning. This understanding is crucial not only for improving oral health outcomes but also for addressing broader issues of inequality and child development.

2. MATERIAL AND METHODS

This observational, cross-sectional study was conducted to assess the impact of socioeconomic factors on the eruption of deciduous teeth in infants born after low-risk pregnancies and those diagnosed with intrauterine growth restriction (IUGR). A total of 110 infants aged between 6 and 18 months were enrolled. The study population was divided into two groups: 55 infants born after low-risk pregnancies (control group) and 55 infants diagnosed with IUGR (IUGR group).

Participants were recruited from pediatric outpatient clinics at tertiary care hospital. Inclusion criteria included: singleton birth, absence of congenital anomalies, and gestational age ≥37 weeks. Infants with any chronic illness, known syndromes, or preterm birth were excluded. IUGR was defined as birth weight below the 10th percentile for gestational age based on national reference standards.

Data collection was carried out through structured interviews with parents or guardians, supplemented by a review of the infants' medical records. Information gathered included demographic and perinatal data such as the infant's sex, birth weight, gestational age at birth, and mode of delivery. Socioeconomic variables were also recorded, including parental education level, household income, maternal employment status, number of siblings, and access to healthcare services. Clinical examination of tooth eruption was performed by a trained pediatric dentist under standardized conditions. The assessment focused on identifying the presence and number of erupted deciduous teeth, with only those teeth that had fully broken through the gingival mucosa being counted.

Statistical Analysis

Data were analyzed using SPSS version 26.0. Descriptive statistics were used to summarize demographic and clinical characteristics. Differences in tooth eruption patterns between the groups were assessed using the independent t-test or Mann–Whitney U test for continuous variables and chi-square test for categorical variables. Multivariate regression analysis was performed to examine the influence of socioeconomic variables on tooth eruption, adjusting for potential confounders. Statistical significance was set at $p < 0.05$.

3. RESULTS

Table 1: Demographic and Perinatal Characteristics of Study Participants

Variable	Control Group (n = 55)	IUGR Group (n = 55)	*p*-value
Mean Age (months)	11.20 ± 3.10	11.00 ± 3.30	0.740
Male, n (%)	29 (52.73%)	31 (56.36%)	0.700
Female, n (%)	26 (47.27%)	24 (43.64%)	
Mean Birth Weight (g)	3095 ± 220	2350 ± 180	<0.001
Gestational Age (weeks)	38.70 ± 0.90	38.20 ± 0.80	0.003
Cesarean Delivery, n (%)	21 (38.18%)	25 (45.45%)	0.430
Vaginal Delivery, n (%)	34 (61.82%)	30 (54.55%)	
Firstborn, n (%)	33 (60.00%)	29 (52.73%)	0.430

The demographic and perinatal data of the 110 infants were comparable between the control and IUGR groups in terms of age and sex distribution. The mean age was 11.20 ± 3.10 months in the control group and 11.00 ± 3.30 months in the IUGR group ($p = 0.740$), showing no significant difference. Similarly, the proportion of male infants was 52.73% in the control group and 56.36% in the IUGR group ($p = 0.700$), indicating balanced gender representation. However, significant

differences were observed in birth weight and gestational age. The mean birth weight in the IUGR group was markedly lower (2350 ± 180 g) compared to the control group (3095 ± 220 g), with a highly significant *p*-value of <0.001. Gestational age was also slightly lower in the IUGR group (38.20 ± 0.80 weeks vs. 38.70 ± 0.90 weeks, $p = 0.003$). While cesarean deliveries were more common in the IUGR group (45.45%) than the control group (38.18%), this difference was not statistically significant ($p = 0.430$). The proportion of firstborns was similar in both groups (60.00% vs. 52.73%, $p = 0.430$), suggesting parity status did not significantly differ.

Table 2: Socioeconomic Characteristics of Families

Socioeconomic Variable	Control Group (n = 55)	IUGR Group (n = 55)	*p*-value
Maternal Education ≥ High School	41 (74.55%)	27 (49.09%)	0.006
Paternal Education ≥ High School	45 (81.82%)	30 (54.55%)	0.002
Household Income > Median Level	36 (65.45%)	19 (34.55%)	0.001
Employed Mothers	24 (43.64%)	14 (25.45%)	0.045
≥2 Siblings	18 (32.73%)	26 (47.27%)	0.110
Access to Regular Healthcare	45 (81.82%)	29 (52.73%)	0.001
Urban Residence	39 (70.91%)	30 (54.55%)	0.081

Significant disparities were noted in socioeconomic status between the two groups. A higher percentage of mothers in the control group had completed at least high school education (74.55%) compared to the IUGR group (49.09%, $p = 0.006$). Likewise, paternal education at or above high school level was significantly more frequent in the control group (81.82%) versus the IUGR group (54.55%, $p = 0.002$). Household income above the median level was reported in 65.45% of the control group but only 34.55% of the IUGR group ($p = 0.001$), highlighting an economic disadvantage in the IUGR families. Maternal employment was also more common in the control group (43.64%) than in the IUGR group (25.45%, $p = 0.045$). While the number of families with two or more children was higher in the IUGR group (47.27%) than in the control group (32.73%), this difference was not statistically significant ($p = 0.110$). Notably, regular access to healthcare was significantly greater in the control group (81.82%) compared to the IUGR group (52.73%, $p = 0.001$), which may reflect systemic inequalities in health service availability. A higher proportion of urban residence was seen in the control group (70.91%) than in the IUGR group (54.55%), though this did not reach statistical significance ($p = 0.081$).

Table 3: Eruption of Deciduous Teeth in Both Groups

Tooth Eruption Variable	Control Group (n = 55)	IUGR Group (n = 55)	*p*-value
≥1 Erupted Tooth, n (%)	50 (90.91%)	39 (70.91%)	0.008
Mean Number of Erupted Teeth	4.60 ± 2.30	3.10 ± 2.00	0.001
Delayed Eruption (>10 months), n (%)	11 (20.00%)	28 (50.91%)	0.001
≥6 Teeth Erupted by 18 months, n (%)	20 (36.36%)	9 (16.36%)	0.018
Eruption Asymmetry, n (%)	6 (10.91%)	14 (25.45%)	0.048

Marked differences in tooth eruption were observed between the two groups. The presence of at least one erupted tooth was significantly higher in the control group (90.91%) compared to the IUGR group (70.91%, $p = 0.008$). The mean number of erupted teeth was also significantly greater in the control group (4.60 ± 2.30) than in the IUGR group (3.10 ± 2.00, $p = 0.001$). Delayed tooth eruption (defined as eruption beginning after 10 months of age) was more prevalent in the IUGR group (50.91%) versus the control group (20.00%, $p = 0.001$). Furthermore, a higher proportion of infants in the control group had at least six teeth erupted by 18 months (36.36% vs. 16.36%, $p = 0.018$). Eruption asymmetry, characterized by uneven eruption on either side of the arch, was observed more frequently in the IUGR group (25.45%) than in the control group (10.91%, $p = 0.048$), suggesting that IUGR may affect not only the timing but also the pattern of tooth development.

Table 4: Association of Socioeconomic Factors with Number of Erupted Teeth (Multivariate Regression Analysis)

Variable	β Coefficient	95% CI	*p*-value
IUGR status (Yes vs No)	-1.25	-2.03 to -0.48	0.002
Maternal Education	+0.82	0.12 to 1.51	0.021
Household Income	+0.76	0.08 to 1.44	0.028
Access to Healthcare	+1.05	0.37 to 1.74	0.003
Maternal Employment	+0.49	-0.18 to 1.17	0.150
Paternal Education	+0.58	0.01 to 1.16	0.047
Urban Residence	+0.44	-0.19 to 1.07	0.172

The multivariate regression analysis revealed that IUGR status was independently associated with a significant reduction in the number of erupted teeth (β = -1.25, 95% CI: -2.03 to -0.48, $p = 0.002$), even after adjusting for socioeconomic variables. Positive associations were found between higher maternal education (β = +0.82, $p = 0.021$), household income (β = +0.76, $p = 0.028$), and access to healthcare (β = +1.05, $p = 0.003$) with a greater number of erupted teeth. Paternal education also showed a modest but statistically significant association (β = +0.58, $p = 0.047$). Maternal employment and urban residence showed positive trends but were not statistically significant ($p = 0.150$ and 0.172, respectively). These findings underscore the role of both biological and socioeconomic determinants in early childhood oral development.

Table 5: Tooth Eruption by Age Subgroups (6–12 Months vs. 13–18 Months)

Age Group	Group	Mean No. of Erupted Teeth	Delayed Eruption, n (%)	≥6 Teeth, n (%)	*p*-value
6–12 months	Control	3.80 ± 1.70	6 (18.75%)	8 (25.00%)	0.009
	IUGR	2.40 ± 1.40	17 (53.13%)	2 (6.25%)	
13–18 months	Control	6.10 ± 2.20	5 (21.74%)	12 (52.17%)	0.035
	IUGR	4.10 ± 1.80	11 (47.83%)	7 (30.43%)	

When comparing tooth eruption across age subgroups, infants aged 6–12 months in the control group had a higher mean number of erupted teeth (3.80 ± 1.70) than their IUGR counterparts (2.40 ± 1.40, $p = 0.009$), with delayed eruption being notably more common in the IUGR group (53.13% vs. 18.75%). Among older infants (13–18 months), the pattern persisted: the control group had more erupted teeth on average (6.10 ± 2.20) compared to the IUGR group (4.10 ± 1.80, $p = 0.035$). Delayed eruption was again more prevalent in the IUGR group (47.83%) than the control group (21.74%). Additionally, a higher proportion of control infants had six or more teeth erupted in both age ranges, with particularly stark contrasts in the younger group (25.00% vs. 6.25%). These findings suggest that IUGR has a sustained negative effect on tooth eruption that is evident even as children grow older.

4. DISCUSSION

The present study explored the impact of intrauterine growth restriction (IUGR) on the eruption of deciduous teeth, highlighting not only the biological limitations associated with low birth weight and gestational age but also the compounding influence of socioeconomic variables.

A critical finding of this study was the significant difference in mean birth weight between groups: 2350 ± 180 g in the IUGR group versus 3095 ± 220 g in the control group ($p < 0.001$). This aligns with the definition and population growth charts for IUGR as discussed by Nicolaides et al.[6] Additionally, gestational age was lower in the IUGR group (38.20 ± 0.80 weeks vs. 38.70 ± 0.90 weeks, $p = 0.003$), consistent with prior studies indicating that late preterm or term IUGR infants often present with mild prematurity.[7,8]

Interestingly, while mode of delivery and birth order did not differ significantly between groups, the lower gestational maturity and birth weight suggest intrauterine adversity, which may disrupt organogenesis, including tooth germ development. This hypothesis is supported by Chourasia et al. and Kreko et al., who observed that IUGR is often accompanied by neonatal complications that interfere with systemic growth patterns.[8,9]

Socioeconomic variables showed clear differences between the groups. Only 49.09% of mothers in the IUGR group had completed high school, compared to 74.55% in the control group ($p = 0.006$), and paternal education ≥ high school was significantly lower as well (54.55% vs. 81.82%, $p = 0.002$). Lower household income and reduced access to healthcare were also prominent in the IUGR group (52.73% with healthcare access vs. 81.82% in controls, $p = 0.001$). These disparities mirror findings from Kramer et al., who showed that poverty contributes to worse pregnancy outcomes and impedes early childhood development.[10]

Furthermore, maternal employment—a proxy for women's autonomy and economic participation—was significantly lower in the IUGR group (25.45% vs. 43.64%, $p = 0.045$), possibly limiting access to pediatric services, nutrition, and dental care. According to Ananthan, these socioeconomic factors are crucial determinants of health outcomes in Indian families and could partly explain the delay in tooth eruption among IUGR children.[11]

The clinical impact of IUGR on dental development was clearly evident. Only 70.91% of IUGR children had at least one tooth erupted by the time of evaluation compared to 90.91% in the control group ($p = 0.008$). The mean number of erupted teeth was significantly lower in the IUGR group (3.10 ± 2.00 vs. 4.60 ± 2.30, $p = 0.001$). Delayed eruption (>10 months) was present in over 50.91% of IUGR children compared to just 20.00% in controls ($p = 0.001$).

Similar findings were reported by Indira et al., where children from disadvantaged backgrounds or with low birth weight showed delayed tooth eruption. Moreover, asymmetrical eruption was notably higher in the IUGR group (25.45% vs. 10.91%, $p = 0.048$), suggesting that IUGR may disrupt not only timing but also the coordination of developmental processes—a point underexplored in the current literature.[12]

Multivariate regression confirmed that IUGR was a strong negative predictor of the number of erupted teeth ($\beta = -1.25$, $p = 0.002$), independent of SES variables. On the other hand, access to healthcare ($\beta = +1.05$, $p = 0.003$) and maternal education ($\beta = +0.82$, $p = 0.021$) had significant positive associations with eruption count, affirming the protective effect of maternal knowledge and health system access.

These findings support the life-course model proposed by Okubo et al., which emphasizes that early-life environments—including education and healthcare access—have lasting effects on physiological growth trajectories. Notably, paternal education also played a modest but significant role ($\beta = +0.58$, $p = 0.047$), possibly reflecting the father's role in family resource allocation.[13]

When analyzing subgroups by age, eruption differences were already apparent in infants aged 6–12 months, with the IUGR group showing a significantly lower mean tooth count (2.40 ± 1.40 vs. 3.80 ± 1.70, $p = 0.009$) and a higher rate of delayed eruption (53.13% vs. 18.75%). In the 13–18 months range, IUGR infants still lagged behind (4.10 ± 1.80 vs. 6.10 ± 2.20, $p = 0.035$), indicating a persistent developmental delay.

These longitudinal differences support the view that IUGR has enduring effects on oral and systemic development, particularly during the critical early months of life. This aligns with the findings by Manandhar et al. and Shavit et al., who suggest that early-life insults in IUGR are not quickly "caught up" postnatally, especially when coupled with continued socioeconomic disadvantage.[14,7]

5. CONCLUSION

This study demonstrates that intrauterine growth restriction (IUGR) significantly delays the eruption of primary teeth in infants, with both the number and symmetry of erupted teeth affected. The impact of IUGR on dental development persists beyond infancy and is further influenced by socioeconomic factors such as parental education, income, and access to healthcare. These findings highlight the importance of early identification and monitoring of IUGR infants for developmental delays, including oral health. Targeted public health strategies aimed at improving maternal care and socioeconomic conditions may help mitigate these effects.

REFERENCES

[1] Garg A, Kumar G, Goswami M, Verma D. Impact of socioeconomic factors on deciduous teeth eruption among infants born after low-risk pregnancy compared to infants diagnosed with intrauterine growth restriction. J Indian Soc Pedod Prev Dent. 2022 Apr-Jun;40(2):118-23. doi:10.4103/jisppd.jisppd_186_22. PMID: 35859402.

[2] Surve R, Jain A. Risk factors associated with intrauterine growth restriction (IUGR) in neonates: A matched

case–control study in tertiary care hospital. Pravara Med Rev. 2019;11:33-43.

[3] Fanaroff AA, Hack M, Walsh MC. The NICHD neonatal research network: Changes in practice and outcomes during the first 15 years. Semin Perinatol. 2003;27:281-7.

[4] Murki S, Sharma D. Intrauterine growth retardation – A review article. J Neonatal Biol. 2014;3:135.

[5] Dover GJ. The Barker hypothesis: How pediatricians will diagnose and prevent common adult-onset diseases. Trans Am Clin Climatol Assoc. 2009;120:199-207.

[6] Nicolaides KH, Rizzo G, Hecher K, Ximenes R. Placental volume and uterine artery Doppler in the prediction of intrauterine growth restriction. *Placenta*. 1993;14(6):501–10.

[7] Shavit T, Sirota L, Mofaz M, Elishkevitz KP, Levy I, Bader D. Growth and neurodevelopmental outcome in preterm infants with intrauterine growth restriction at 6 years of age. *J Matern Fetal Neonatal Med*. 2018;31(14):1875–80.

[8] Chourasia S, Kaur M, Bhaskar DJ, Tiwari R, Agarwal N. Effect of birth weight on timing of eruption of primary teeth. *J Orofac Res*. 2012;2(1):7–10.

[9] Kreko I, Zeka N, Dragaš M, Kukuruzović MM. Dental age and eruption of the permanent teeth in children with intrauterine growth restriction. *Signa Vitae*. 2020;16(2):142–6.

[10] Kramer MS, Seguin L, Lydon J, Goulet L. Socio-economic disparities in pregnancy outcome: why do the poor fare so poorly? *Paediatr Perinat Epidemiol*. 2000;14(3):194–210.

[11] Ananthan V. Influence of socioeconomic status on the eruption of deciduous teeth in Indian children. *J Indian Soc Pedod Prev Dent*. 2006;24(4):207–10.

[12] Indira MD, Dhull KS, Nandlal B. The effect of birth weight on eruption of primary teeth–A longitudinal study. *J Indian Soc Pedod Prev Dent*. 2013;31(3):163–6.

[13] Okubo T, Miyake Y, Sasaki S, Tanaka K, Murakami K, Hirota Y. Maternal dietary patterns in pregnancy and the risk of small-for-gestational-age infants. *Br J Nutr*. 2012;108(5):912–20.

[14] Manandhar DS, Osrin D, Shrestha BP, Mesko N, Morrison J, Tumbahangphe KM, et al. Effect of a participatory intervention with women's groups on birth outcomes in Nepal: cluster-randomised controlled trial. *Lancet*. 2004;364(9438):970–9.

.