Child Dental Neglect Among Parents With Assessment Of Oral HealthAndSocioeconomicStatus-AnObservationalStudy

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Abstract

Background: Child dental neglect is a major public health issue with long-term implications for children's oralhealth and overall well-being. The purpose of this study is to investigate parents' knowledge, awareness, andperception of child dental neglect, as well as to assess the oral health status and socioeconomic background ofthe children involved. Methods. A cross-sectional observational study was conducted among 424 parents orcaregiversandtheirchildren.Thestudyusedbothsurvey-basedassessmentsandclinicalexaminationstocollectcomprehensive data on knowledge and awareness. Results. A total of 424 individuals were participated in thestudy, of which categorized based on socio-economic classes namely Lower Middle Class, Upper Middle Classand Lower Class. Dental caries status was significantly correlated with knowledge, attitude, and practice, withp-values of 0.001, 0.002, and 0.028, respectively. The group with the highest prevalence of caries was the lower-middle class (49.7%). Conclusions. The findings of the study indicate that knowledge and attitude are connectedwith socioeconomic position and may have an effect on the percentage of people who have dental caries. However,thereisstillaneedforrigorouscoordinatedeffortstobemadebypaediatricians,dentists,andotherprofessional sworking inthefieldofhealth caretocultivateandsupportgoodattitudesamongparents.

MaterialsandMethods:Across-sectionalobservationalstudywasconductedamong424 parentsorcaregiversand their children. The study used both survey-basedassessmentsandclinicalexaminationstocollectcomprehensivedataonknowledge andawareness.

Results:Atotalof424individualswereparticipatedinthestudy,ofwhichcategorizedbasedonsocio-economicclasses namely Lower Middle Class, Upper Middle Class and Lower Class. Dental caries status was significantlycorrelated with knowledge, attitude, and practice, with p-values of 0.001, 0.002, and 0.028, respectively. Thegroup with thehighestprevalence ofcarieswasthelower-middle class(49.7%).

Conclusions: The findings of the study indicate that knowledge and attitude are connected with socioeconomicpositionandmayhaveaneffectonthepercentageofpeoplewhohavedentalcaries.However,thereisstillan eedfor rigorous coordinated efforts to be made by pediatrician's, dentists, and other professionals working in thefield ofhealth caretocultivateandsupportgoodattitudesamongparents.

Keywords:Children,dentalneglectscale,OralHygienecare

I.   Introduction

Childdentalneglectisamajorpublichealthissuewithlong-termimplicationsforchildren'soralhealthandoverallwell-being. Dental neglect occurs when parents or caregivers fail to provide adequate oral hygiene care andnecessarydentaltreatmentfortheirchildren.Itcancauseavarietyoforalhealthissues,suchasdentalcaries,gumdiseas e, andeventoothloss[1].

Understandingthefactorsthatcontributetochilddentalneglectiscriticalfordevelopingeffectivepreventionan dintervention strategies. The purpose of this observational study is to investigate parents' knowledge, awareness,and perception of child dental neglect, as well as to assess the oral health status and socioeconomic backgroundofthe childreninvolved[2].

To reach their potential for optimal oral health, children have a number of needs for exampleA balanced

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dietwithagoodbalanceofcarbohydrates,protein,fibre,andhealthyfatsisessentialformaintaininggoodoralhealth.Avoi dingfoodswithhighsugarcontent,suchasstickycandiesandchocolate,isalsocrucial[3].Propernutritionis essential for maintaining good health of the primary dentition. Additionally, it is important to treat caries assoonaspossiblesince,ifleftuntreatedforaprotractedlengthoftime,itcanharmpermanentteethaswell [4]Thequality and quantity of one's diet and dental care given candiffer at different socio-economic classes, culturalandreligiousdiversity,andthestandardsoflivinghaveanimpactonachild'sphysicalwell-being,propernutrition[5].

Structured surveyswill be used to assess parents' knowledge and awareness of topics such as oral hygienepractices, dental care utilization, and recognizing signs of dental neglect. In addition, clinical examinations willbeperformedonthechildrentoassesstheiroralhealthstatus,includingthepresenceofdentalcaries,oralhygienemeas ures,andoverall oral healthconditions.

Socio-economic factors significantly influence access to healthcare, including dental services. Families facingeconomichardshipsmaystruggletoaffordpropernutritionanddentalcare,leadingtoanincreasedriskofdentalneg lect. This study will assess the socio-economic status of participating families, considering income levels,educationalbackground,andemploymentstatus.By identifying socio-economicdisparities,wecan betterunderstand the challengesfacedbydifferentsegmentsofthepopulation[6].

This observational study's findings will add to the existing body of knowledge on child dental neglect byemphasizing theimportanceof parentalknowledge,awareness,andsocioeconomicfactorsin determiningchildren's oral health outcomes. The findings can help dental professionals, and public health officials developtargetedinterventionsandeducationalprogramstoeffectivelypreventandaddresschilddentalneglect.

Thisstudyaimstopromoteabetterunderstandingoftheissueandpavethewayforeffectivemeasurestoimproveo ral health outcomes in children by shedding light on the factors that contribute to child dental neglect and itsconsequences.Theultimategoalistoensurethateverychildreceivestheoralhealthcareandsupporttheyrequireto have a healthyandbrightsmile.

II. Materials&Methodology

An observational study was carried out in multiple schools in Pune city. This setting allowed for simple randomselectionofparticipants fromthe entireschoolsofcityenhancingtherepresentativenessof thesample.

Priortothemainstudy,apilotstudyinvolving30participantswasconducted.TheCronbach'salphavalueof0.94 indicatedgoodinternalconsistencyreliabilityfortheitemsincludedintheDentalNeglectquestionnaire.Themean decayed, extracted, filled teeth (deft) scores for the low and high dental neglect groups were 2.165 and2.981,respectively.

TheresultsofthepilotstudywereusedtocalculatethesamplesizeforthemainstudyusingIMBSPSSStatistics26 .0 software.Basedonthese results,theestimated samplesizewasdeterminedtobe424participants.

Thiscross-sectionalobservationalstudywillcollectdatafromadiversesampleofparentsorcaregiversandtheirchildren. The study will use both survey-based assessments and clinical examinations to collect comprehensivedataonknowledge,awareness,perceptionofchilddentalneglect,oralhealthstatus,andsocioeconomicf actors.

The study will aim to recruit a representative sample of parents or caregivers with children aged between 3 and13years. Efforts will be made to include participants from different socio-economic backgrounds, educationallevels, and cultural contexts to ensure a diverse sample. Informed consent will be obtained from all participantspriortotheirinvolvementinthe study.

A structured questionnaire wasdeveloped to collect relevant data on knowledge, awareness, and perception ofchild dental neglect. The questionnaire covered topics such as oral hygiene practices, dental care utilization,recognitionofsignsofdentalneglect,andparental attitudestowardsoralhealth.

Trained dental professionals performed clinical examinations of children's oral health in natural daylight, usingmouth mirrors and probes. The examinations looked at dental caries, oral hygiene, and overall oral health. TheteethwererecordedusingtheFederationDentaireInternationaleNumberingSystembydentalprofessionals.Theex aminationincludedevaluatingdecayed,missing,andfilledteeth,aswellasoveralloralhealth.TheDMFT/deftscale was used to aid in the evaluation of dental caries. The Modified Kuppuswamy scale was used to comparesocioeconomic status acrossclasses and its relationship with dentalneglect. Income,education level,andoccupation were usedto determine socioeconomicstatus.

III. Results

A total of 424 individuals were participated in the study, of which categorized based on socio-

economic classesnamely Lower Middle Class, Upper Middle Class, Lower Class, Upper Lower Class, Upper Class. Among thegroup,LowerMiddleClasswasabout49.7%, followedbythe Upper Middle Class with44.1%.
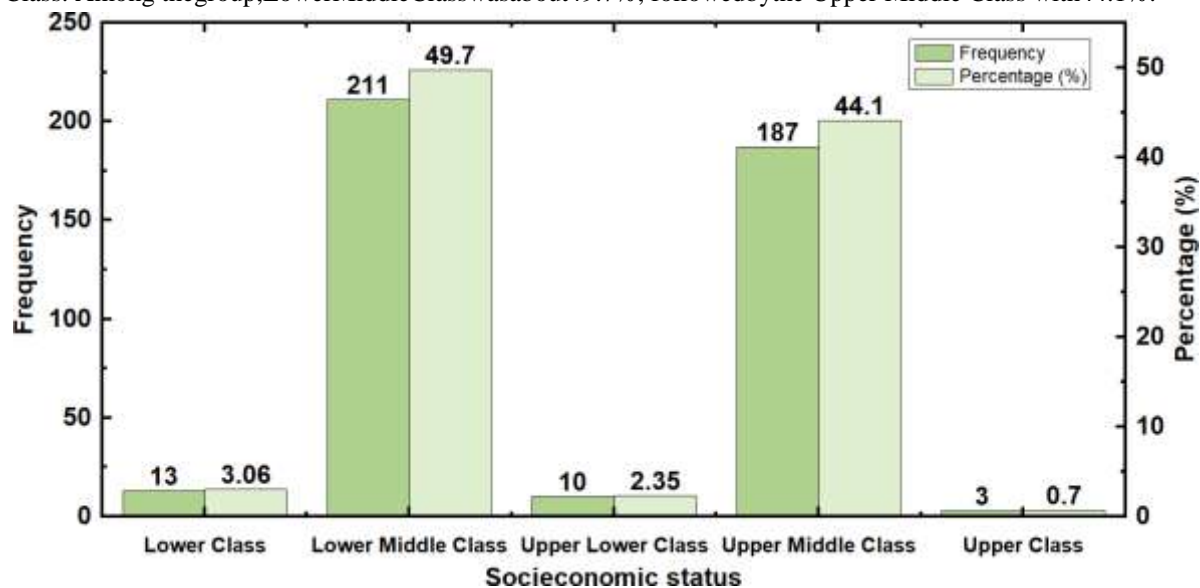

Figure1.:Distributionof studysamplesaccordingtosocio-economic status

The remaining distribution is relatively balanced across the other classes, with the lower Class at 3.06%, upperlower Class at 2.35%, and upper Class at 0.7%.Figure 1 shows the distribution of the individuals with dentaldefectcategorizedbasedonsocio-economicclasses.Figure2illustratestheassociationbetweenDMFTindexandsocio-economic status. The Lower Class has a mean DMFT score of 4.92, the Lower Middle Class has a meanscore of 5.51, the Upper Lower Class has a mean score of 7.5, the Upper Middle Class has a mean score of 5.22,andtheUpperClasshasameanscoreof2.66.ThetotalmeanDMFTscoreforallclassesis5.39,withastandarddeviationof2.61.
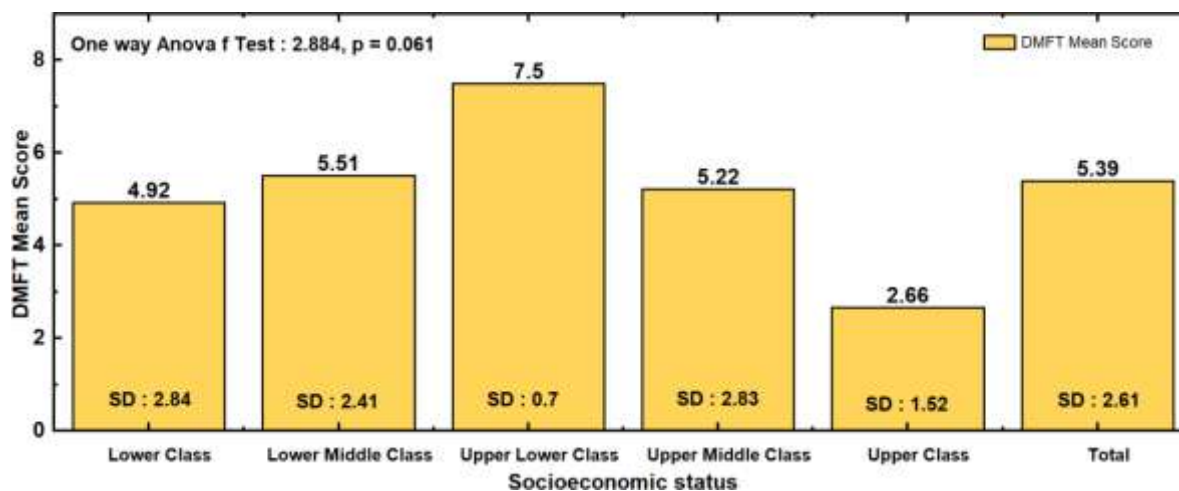

Figure2. : Distribution of study population based on knowledge, attitude and practiceof studypopulation

In order to determine whether or not there is a statistically significant connection between socio-economic statusand the DMFT Index, a one-way analysis of variance (ANOVA) test was carried out. The results of the analysisofvariance(ANOVA)testshowthattheFstatisticis2.884,andthep-valuethatcorrespondsto itis0.061.Ithasbeen determined that there is no statistically significant link between the two variables because the p-value ishigher than the standard significance level of 0.05. Consequently, it is possible to draw the conclusion that thereis no statistically significant association between socio-economic position and the DMFT Index. At the currentsignificance level, the study reveals that socio-economic position does not appear to have a significant impact onthe DMFT Index among the participants in the study. This is the conclusion that can be drawn from the findingsofthe study.

Figure3shows summary of the distribution of the study population in terms of their knowledge,

attitude,
andpracticepractices.Intermsofbothknowledgeandpractice,themajorityoftheparticipantsexhibita"Poor"levelofproficiency(66.7%and67.9%respectively).Ontheotherhand,asizeablepercentageofpeoplethinkthattheyhave a "Good" attitude (57.5%). The results of this study indicate that there may be a gap in knowledge andpracticeamongthepopulationthatwasstudied,withagenerallypositiveattitudebeingthepredominantattitude.

Therearealsolittledifferencesinthemeanscoresofknowledgeacrossthevarioussocio-economicclasses,whichare as follows: Lower Class (2.53), Lower Middle Class (2.59), Upper Lower Class (2.9), Upper Middle Class(2.57),andUpper Class(2.66)and showninFigure 4.

The fact that the p-value of 0.613 shows that there is no statistically significant link between socio-economicpositionandknowledge.
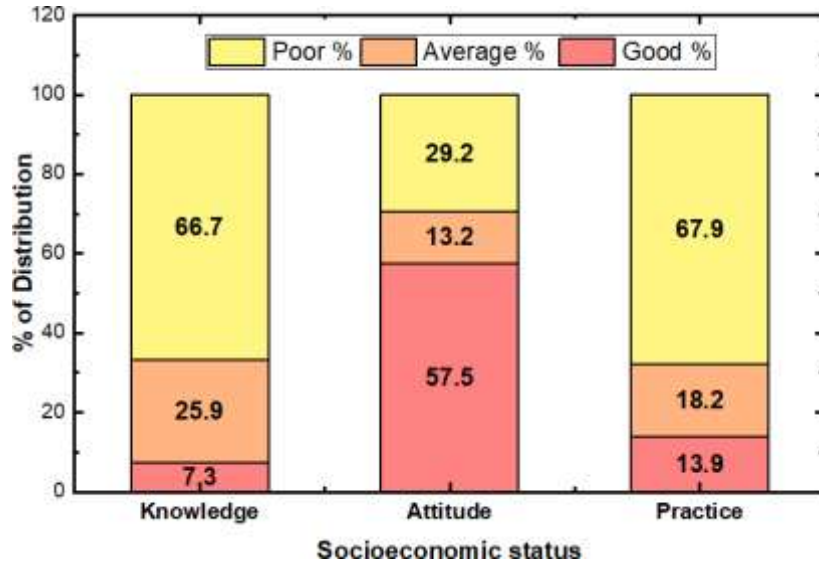

Figure3.:DistributionofStudyPopulationBasedonKnowledge,Attitude,andPractice

Asignificantp-value(<0.001)indicatesthattherearemoreevidentdifferencesinattitudebetweendifferentsocio-economicclasses. Suchdisparitiesare seen.There isa correlation

betweensocio-economiclevel
andattitude,asindicatedbythefollowing:LowerClass(1.15),LowerMiddleClass(1.78),UpperLower Class(2.9),Upper MiddleClass(1.61),and Upper Class(1.66).

Ontheotherhand,themeanscoresforpracticedifferdependingonthesocioeconomicclass:LowerClass(2.46), Lower Middle Class (2.6), Upper Lower Class (3.0), Upper Middle Class (2.43), and Upper Class (3.0).There isa statistically significant link between socio-economic status and practice, as indicated by the p-value (0.028),which is significantly large. The results of the study indicate that socioeconomic level may have a significantimpactonbothattitudesandpractices,butit doesnothave anyimpactonknowledge.
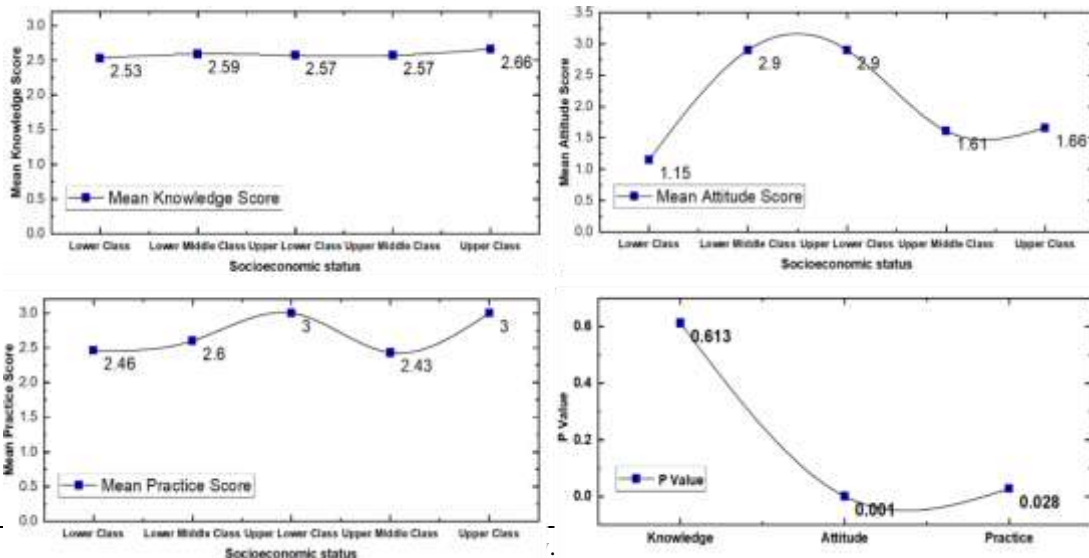
Figure4.:AssociationofSocio-EconomicStatuswithKnowledge,Attitude,andPractice

Table1explorestheassociationbetweendentalcariesstatus(DMFTScore)andknowledge,attitude,andpractice.Itappearsthatthereisasubstantialdifferenceindentalcariesstatusbasedonknowledge,asevidencedbythefactthat participants with "Poor" knowledge had a higher mean DMFT score compared to those with "Good"knowledge(p= 0.001).

Asimilartrendisshownforattitude,withasignificantdifferenceinmeanDMFTscoresbetweendifferentattitudecategories(p= 0.002).Thisdifference isevidentinthe contextofattitude.

Thepracticeofdentistryalsodemonstratesasignificantcorrelationwiththepresenceofdentalcaries(p=0.028), whichsuggeststhatpersonswithdiverselevelsofdental cariesmayhavedistinctdental cariesstatuses.

In conclusion, the findings of the study indicate that knowledge, attitude, and practice are connected with socio-economic position and may have an effect on the percentage of people who have dental caries. Better oral

healthoutcomesmaybeachievedthroughtheimplementationofstrategiesthataimtoenhanceknowledgeandencouragepositiveattitudesand habits, particularlyamongindividualsfromlower socioeconomicgroups.

Table1. : Association of dental caries status (DMFT score) with knowledge, attitudeandpracticeofstudy population

Category	GoodMean(SD)	AverageMean(SD)	PoorMean(SD)	pvalue
Knowledge	4.83(2.25)	4.67(2.23)	5.74(2.73)	0.001*
Attitude	5.02(2.63)	5.57(2.74)	6.04(2.40)	0.002*
Practice	4.59(2.38)	5.31(2.80)	5.58(2.59)	0.028*
*p<0.05–Statisticalsignificantdifference				

IV.   Discussion

Regardingtheestimationofthechilddentalneglectthatoccursallovertheworld,thereisaverylittleamountofliterature. A linkage between dental health and socioeconomic determinants, attitude toward dental health, andacceptancetodentaltreatment,allofwhichhavereceivedlessattentionuptothispoint,canbeestablishedthrough the assessment of dental neglect among caretakers of children[1]. In the literature, it is stated that early lesionsdevelop into cavities within two to three years, and cavities can further give rise to symptoms such as discomfortandswelling,whicharealsoregardedtobecharacteristicsofneglect.Accordingtothefindingsofacomprehensive review [7], the most prominent characteristics of dental neglect are the failure to seek dentaltreatmentorthedelayinobtainingdentaltreatment,thefailuretocomplywiththetreatmentplan,andtheinabilityto execute basicoral care.

BasedonthescalethatKuppuswamy[8]provided,aninvestigationintothesocioeconomicsituationofthechild'sparentswascarriedout.Accordingtothefindingsofourresearch,thegroupwiththehighestprevalenceofcarieswasthelower-middleclass(49.7%),followedupper-middleclassbythe(44.1%).InaccordancewiththefindingsofthestudycarriedoutbySoaresetal.[9],whichclaimedthatchildrenwhobelongedtolowsocioeconomicstatusreportedalowerincidenceofdentalcariesincomparisontochildrenwho belongedtomidtohighsocioeconomicclass, the findings of our investigation are in agreement with those findings. One possible explanation for thisphenomenon is that individuals who belong to high socioeconomic level have bigger disposable earnings, whichtherefore enables them to purchase foods that contain a significant amount of sugar. It has been discovered that asignificant rise in sugar consumption is the cause of a high incidence of dental caries in children who belong tothe middle to upper socioeconomic group. Children from upper-class families had lower rates of dental caries(0.7%)becausetheypracticebetteroralhygiene,gotothedentistonaregularbasis,havemoreknowledgeaboutoral health,andhaveamorefavourable attitudetoward receivingoralhealthcare services.

During the course of this research, it was discovered that the of the participants possessed knowledge regardingoral health. However this knowledge isnot much to the mark and is only 7.3%. The majority of participants,which accounted for 57.5% of the total, were keen in knowing about the healthy oral habits. In order to cultivatehealthyoralhabits,itisabsolutelynecessarytohaveacomprehensiveunderstandingoforalhealth[10].Instudies conducted in Kuwait and Spain [11,12], researchers found a correlation between increased knowledge andimproved oral health. On the other hand, maintaining good dental health not only helps an individual look andfeelbetter, butit also contributestothe preservationoforalfunctions[13].

The Decayed, Missing, and Filled Teeth (DMFT) Index is an excellent instrument for evaluating attitudes

andbehavioursaroundoralhealth.Inadditiontothis,itisaneffectiveinstrumentforconductingdemographicsurveyswith the purposeofidentifyinggroupsthat aresusceptible to dentaltreatment.[14–17]

The average DMFT score among participants is 5.39, which indicates that children receive just poor oral healthcare (the possible range for this score is between 0.1and 6.6). It has been seen in earlier investigations thathigher dentalneglect scoresrelatetopoorer oral health.

In the current investigation, the DMFT index was then classified as either good, average, or poor. The meanDMFTscorewaslowerin thegood practicegroup [4.59], whereas itwashigherin thepoorattitude group[1.72 ±1.5].Thedifferencebetweenthegood,averageand poorgroupswas statisticallysignificant[pvalue<0.05].

Children whose parents with a high knowledge score exhibited a low dmft, according to research conducted byAzimiS. et al.[18]andDikshitP. et al.[19].

According to the findings of Mehta N et al. [20], the presence of dental caries in children was statisticallysubstantiallyconnectedwiththelevelofknowledgeand attitudethatparentshad toward oral health.

When comparing the good, average, or poor group, the difference was statistically significant [p value < 0.05].The current study found that. knowledge, attitude, and practice are all connected with socio-economic positionand may have an effect on the prevalence of dental caries. Better oral health outcomes may be achieved throughthe implementation of strategies that aim to enhance knowledge and encourage positive attitudes and habits,particularlyamongindividualsfromlower socioeconomicgroups.

For the purpose of cultivating andsupporting goodattitudes among parents, there is a needfor rigorouscoordinated efforts to be made by paediatricians, paediatric dentists, and other professionals working in the fieldofhealthcare.

V.   Conclusion

This observational study seeks to shed light on the intricate dynamics of child dental neglect by examining theparental knowledge, awareness, and socio-economic factors. The findings aim to contribute valuable insights topublic health initiatives, guiding interventions that not only address oral health issues but also tackle the rootcauses embedded in socio-economic disparities. By fostering a comprehensive understanding of these complexrelationships,weaspireto pavethewayforabrighter and healthierfutureforourchildren.

VI.   Acknowledgements

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