A. Title: The Influence of Acculturation on Measures of Oral Health Practices for Mexican-American Mothers and Children Who Attend the CHRISTUS Santa Rosa Children Hospital, WIC Clinic in San Antonio, Texas

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B. ABSTRACT

Purpose: The purpose of this project was to examine associations between maternal oral health practices and their acculturation levels and to identify risk factors for Early Childhood Caries (ECC) for Mexican- Americans attending a WIC clinic in San Antonio, TX. **Objectives:** To determine if acculturation would be a predictor of oral health practices of Mexican-American mothers and their children living in San Antonio and to establish any associations between maternal acculturation and practices of oral health in a sample of predominantly Mexican-American women, attending the Women Infant and Child Clinic (WIC) at the CHRISTUS Santa Rosa Children Hospital (CSRCH). **Methods:** A sample of 204 Mexican-American mothers and their children were enrolled. After the approval of the study and consent forms by Institutional Review Boards (IRB), a validated questionnaire based on Knowledge, Attitudes, Beliefs and Behaviors ($KABS^2$) and a self-reporting acculturation questionnaire titled Acculturation Rating Scale for Mexican Americans II (ARSMA II) were administered to the qualified mothers in either English or Spanish. Children underwent an oral screening by one dentist using the "lift the lip" technique and in the knee-to-knee position. **Results:** Mothers from the slightly to strongly Anglo oriented levels were more likely to be high school educated in the United States (US), visited the dentist for the first time around elementary school, gave their children tap water and breast-fed their infants. Even though statistical associations could not be shown, children of mothers with higher acculturation tended to have a decreased prevalence of Early Childhood Caries (ECC) when compared to children of mothers with less acculturation. **Conclusions:** Within the conditions of this study feeding practices, maternal educational levels and maternal early dental visits effected the oral health status of children attending WIC. Acculturation is a factor worthy of consideration in San Antonio's future oral health programs.

C. APPLICANT'S ROLES

Applicant participated in all aspects of project including, planning, implementation, data collection and management, evaluation and report preparation. **Planning:** The applicant Developed dental screening forms, researched acculturation questionnaires, and produced Results of Dental Examinations and referral forms in Spanish and English. The applicant then ordered the supplies and printing the necessary forms. **Implementation:** a) Operational arrangements with CSRCH administrative staff, recruitment of subjects, enforced exclusion criteria, examination and data collection activities, as well as coordination of scheduling/site for examination and completion of questionnaires, b) collaboration with statistician to determine the sample size, c) recruitment of mothers at CSRCH, WIC clinic; administration of informed consent, the KABS[2,] and acculturation questionnaires and conducted oral examinations, d) inspection of all data forms for accuracy, making phone calls as needed to complete any missing data, e) duplication of completed forms in preparation for data entry process and f) Worked with a statistician setting up and assisting with the data entry process and edited all the raw data. **Contribution:** Fostered oral health promotion by assisting mothers at the conclusion of each dental screening, addressed oral concerns, provided guidance with regards to oral health for the entire family including other children, and their partners. Also, assisted with all necessary and emergency referrals to the various community dental clinics and W.I.C counselors and summarized all the Appendices. **Participation:** As noted above, participated fully by performing children's dental screenings, promoting oral health at the W.I.C clinic, and collaborating with a UTHSCSA, Community Dentistry faculty member in conducting dental screenings for her Research project needs.

D. PURPOSE OF THE PROJECT

The purpose of this project was to explore the influences of acculturation on oral health practices of Mexican-American mothers who attend a WIC clinic in San Antonio, Texas. In addition, this study explored factors associated with the prevalence of ECC and Severe Early Childhood Caries (S-ECC). This study focused on the Mexican American sub-population since they are the majority population group in San Antonio, Texas. The study examined possible role of acculturation with objective measures such as age of mother and child, maternal/ paternal educational levels, mother's employment, mother's first and last dental visits, status of child's dental insurance and feeding and oral health practices of the child. U.S. Goals for Health 2010 (#21.12) calls for increasing the number of children from low income families receiving preventive dental services annually from 20% to 57% by 2010[1]. In 1996, and16% of Hispanic children under 19 years and below two hundred percent of Federal Poverty Level received such preventive dental service[1]. Barriers to accessing preventive dental care can be individual, social or cultural, such as levels of educational, health literacy level and culturally influenced factors that affect dental care utilization include behaviors, beliefs, attitudes, and values, such as diet, infant feeding practices, care of primary teeth, concern for oral health knowledge[2]. The outcome can contribute toward a better understanding of existing maternal-child oral health practices leading to possible oral health enhancements in the Mexican-American population of San Antonio, Texas.

E. BACKGROUND, REVIEW OF THE CURRENT PERTINENT LITERATURE

Acculturation has been used to understand the dynamic process of adaptation of minorities to the dominant U.S. mainstream middle-class culture[3]. Acculturation is defined as "those phenomena

which result when groups of individuals having different cultures come into continuous first-hand contact, with subsequent changes in the original culture pattern of either group"[3]. Acculturation is a multi-dimensional, multi-factorial and multi-directional process that yields to assimilation[3], integration[3], marginalization[4] and separation[4] modes. For this study only assimilation and integration was incorporated in the form of Acculturation Rating Scale for Mexican Americans II (ARSMA II) Scale 1[4]. Assimilation occurs when acculturating individual looses his or her original culture identity as they require a new identity in a second culture[3]. Integration refers to a mode of acculturation in which individual develops a bicultural orientation; successfully integrates cultural aspects of both groups and feels a certain sense of identification and comfort in both groups[3]. Acculturation levels are influenced by socio-cultural and demographic variables such as generational status, education and income, age, and years of residency in the United States[2]. Studies concentrating on the effects of acculturation on the general health have suggested that it can be beneficial to some health behaviors and outcomes and detrimental to others[5]. According to a study supported by the Agency for Healthcare Research and Quality, Mexican- Americans with greater acculturation tend to have more substance abuse problems, worse birth outcomes such as premature deliveries and poorer dietary practices than their less acculturated peers[6]. On the other hand, Mexican-Americans who have higher acculturation skills have more vision, dental and physical check-ups, are more likely to have health insurance and use preventive services such as Pap smears and mammograms[7]. As a minority group, Mexican- Americans are exposed to the mainstream United States cultural patterns[5]. Modifications that occur as a result of these experience to change behavior and values by individuals have been labeled "acculturation"[5]. The process of acculturation appears to weaken the cultural adherence individuals embrace which in turn influences relationship patterns

and outcomes relating to behaviors affecting care-seeking, prevention behaviors and ultimately health outcomes[8].

There has been a trend towards a declining prevalence of caries experienced by children in the United States over the last 30 years[9]. However, ethnic minority children such as Mexican-American groups continue to suffer disproportionately from ECC [10, 11]. Barriers to accessing preventive dental care can be social or cultural, such as educational level, perceived need and health literacy level[12]. Culturally influenced factors such as behaviors, beliefs, attitudes, and values, such as diet, infant feeding practices, care of primary teeth, concern for oral health, and dental knowledge affect dental care utilization[12]. Belonging to a group in which preventive oral health is not the norm or being part of a population in which a condition such as tooth decay is endemic and may not be defined as an illness are some ways in which cultural issues can affect oral health practices[13]. In other cultures beliefs regarding health and disease can influence accessing dental care[13]. Regarding prevention, mothers may not be predisposed to introduce their young child to preventive dental services because of cultural norms and beliefs. There is little research on Mexican-Americans in the United States and the possible influence of their cultural practices and beliefs on access to preventive dental care, especially for very young children[13]. Although studies have established the relationship of acculturation on systemic chronic diseases there is paucity of data regarding the possible influence of acculturation on oral health, particularly in San Antonio.

F. RATIONALE OF THE PROJECT

Hispanics in the United States continue to be at greater risk for health problems and have the tendency to underutilize preventive services[14]. Mexican-Americans are less likely than non-

Hispanic Whites to use services such as routine medical and dental check-ups[15]. Studies have largely presumed that Mexican-Americans who have adopted the behavioral practices and values of the dominant society are more likely to utilize health services[16]. This view comes from studies indicating that Mexican-Americans used preventive services less than the general population[17]. However, these studies did not measure acculturation directly and only presume that the differences are due to cultural factors.

Some studies have measured acculturation using language preference to explain the effect of acculturation on utilization of health services[18] While some studies have defined acculturation as language preference, others have found that of all acculturation variables, it is the language and not ethnic identification (only measured for the Mexican Americans) that predicts the use of preventive services. Overall the majority of the studies agree that the use of English is beneficial to the outcome of health practices given acculturation dimensions of language, country of origin, and contact with homeland[19].

Regarding access to care and preventive services, a study concluded that compared to the general population, Hispanics are less likely to have health insurance coverage and less likely to have a routine place for obtaining health services[20]. This finding reflects their low income, low education, and employment in positions that do not provide insurance benefits[20]. Studies have concluded that Mexican-Americans are the least likely of other Hispanic groups to be recent users of preventive services. There is a lack of outreach efforts regarding the use of health services by persons who are monolingual Spanish regarding preventive services to reduce illness[20]. Thus, acculturation of Mexican-American population is necessary to understand their health care needs.

Current literature addresses the effects of acculturation, education and dental insurance on dental service use[17]. One such study suggested that Americans with low acculturation status were less likely to have dental insurance and less dental visits compared to those with high acculturation status [17]. It concluded that while dental insurance and education appear to be the most important factors for determining both use of dental care services, acculturation impacted treatment seeking behavior[17]. Hispanic children have a prevalence of dental caries ranging from 13% to 29%, second only to that of Native Americans [21, 22]. According to the *Healthy People 2010*, nearly one in four Hispanic children between the ages of 2-4 years old have untreated decay[1]. An explanation for such high rate of ECC among Hispanic children is that they live in poverty, a condition that has been linked with ECC[1].

According to 1999 Office of the Census figures, among low-income families, Hispanic children are less likely to have visited a dentist in the past year (16%) compared to white, non-Hispanic children (25%), suggesting that factors other than income serve as obstacles to dental care[22].

Knowledge, Attitudes, Beliefs and Behaviors (KABS). An individual's behavior results from a mix of internal and external forces. Beliefs, attitudes, values, expectations, needs, perceptions, personality, and biological factors as well as socio-demographic factors such as age, gender, culture, race, education, family and peer group influence shaping ones actions[12].

Socioeconomic Status. For the purpose of this study, SES was set by the WIC criteria of children living in households with reported income under 185% FPL which is $38,202.50 for a family of four per year.

This study proposed to assess the influence of acculturation on several objective measures of oral health in Mexican-American mother and their children who attend CSRCH, WIC clinic, in San Antonio to determine possible relations between acculturation and oral health disparities.

G. PROCEDURES AND METHODS

The study was conducted from November 2006 to June 2007 at CSRCH, Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). The site was selected because it was located in a largely Mexican-American community in San Antonio.

Sample Size Calculation. The sampling design used a convenience method to select Mexican-American mothers who sought services at this WIC clinic. The sample size was calculated at 200 study participants, to yield an 80% power at 95% confidence interval and a coefficient of 0.4. This number is based on probability of a child having dental caries (within +/- 5%) with 80% certainty, and assuming the proportion of children with dental caries is 50%, then the sample size = $[(1.28)^2 (0.5) (1-0.5)]/ (0.05)^2 \approx 164$ where 1.28 is the z-score to ensure 80% certainty. Two hundred children was the target sample size. Analyses of the data in the National Health and Nutrition Examination Surveys (NHANES III) documented that 16.9 percent of 2-4 year-old children had a caries experience[23]. In a population of low-income, Mexican-American children population the prevalence of ECC ranged from 12.3 percent to 30.5 percent for children under the age of 6[24]. Since there are variable ECC rates for ethnic populations and the age group 0-47 month old children, given the fact that ethnic minorities show an increased risk of caries, the average ECC rate of 50% was chosen for this study.

Participants. Mexican-American mothers attending quarterly required appointments and nutrition classes at the CSRCH, WIC clinic at the location site of 315 N. San Saba (78207) were invited to take part in the study. Two hundred and four volunteers became study participants. The inclusion criteria was Mexican-American mothers with children ages 0-47 months. The infants/children had at least had two primary teeth and were full term deliveries. The exclusion

criteria were: genetic enamel defects, metabolic or nutritional disorders that could predispose them to an increased risk for ECC; lack of any primary teeth; low birth weight (gestation age of <37 weeks) [25] and caesarean section deliveries[26]. It has been suggested that hypoplastic enamel defects resulting from abnormal events in gestation and birth may be a risk factor for caries of the primary dentition and such children must be considered to be at risk of developing ECC when exposed to excessive bottle nursing[27-29]. An increase in the development of dental caries in primary teeth in younger children (3-4 year-olds) is related to an increase in hypoplastic enamel resulting from poor maternal diet influencing pre-term and low birth weight infants there is impaired tooth development in utero[29].

The project was conducted through collaboration between the UTHSCSA, Department of Community Dentistry and CSRCH, WIC Clinic. Informed consent, approved by both institutions (separate IRBs), was obtained from mothers prior to the entry into the study. The consent forms were available in English and Spanish based on the mothers' language preference (Appendix A1 & A2). After consent, a 30 items self reported KABS[2 30] questionnaire was administered to all mothers and included sections on demographics (Appendix B1 & B2), [30] nutrition and oral health knowledge, attitudes, beliefs, social support, and self-efficacy. Acculturation Rating Scale for Mexican Americans II (ARSMA II) [4] was also administered. This self-reporting questionnaire was administered in the language of mother's preference, either English or Spanish (Appendix C1 & C2). Participants indicated their responses on a 5-item scale from (5) Almost Always/Extremely Often, (4) Much/Very Often, (3) Moderately, (2) Very Little/Not Very Often to (1) Not At All. The ARSMA-II scale 1 consists of 30 items identifying language use and preference, ethnic identity and classification, cultural heritage and ethnic behaviors, and ethnic interaction which yielded acculturation modes of integration and

assimilation[4]. The process of data collection took about 15-20 minutes per participant; at times it was interrupted because of the demands of the center.

The ARSMA-II scale 1[4] is composed of the Anglo Orientation subscale (AOS) containing 13 items and the Mexican Orientation subscale (MOS) with 17 items[4] (Table 1). The acculturation score can be used to obtain an acculturation level by employing the suggested cutting scores in Table 1[4]. Raw scores means were used to calculate the acculturation scores. Choices were selected for each item by adding and dividing the number of items of MOS and AOS scales separately to obtain the raw score means for each scale. The means were then used into the formula of Acculturation score = AOS mean – MOS mean[4]. The Spanish-speaking mothers received Spanish questionnaires and were provided additional support from the WIC bilingual, UTHSCA translators and non-study mothers who were bilingual.

Disease definition. The established definition of Early Childhood Caries (ECC) by American Academy of Pediatric Dentistry is "the presence of one or more decayed (non-cavitated or cavitated lesions), missing (due to caries), or filled tooth surfaces" in any primary tooth in a child 71 months of age or younger[31]. In children younger than 3 years old any sign of smooth-surface caries is indicative of severe early childhood caries (S-ECC). From ages 3-5, one or more cavitated, missing (due to caries), or filled smooth surfaces in primary maxillary anterior teeth or a decayed, missing, or filled score of ≥4 (age 3), ≥5 (age 4) surfaces constitutes S-ECC[31].

Screening. Each infant/child was examined for dental caries by one study dentist. All missing teeth reported by mothers as missing for reasons other than caries were excluded from the analyses[32]. The oral health screenings of children was conducted utilizing a visual and nontactile technique known as the "lift the lip" technique and in the knee-to-knee position per World Health Organization (WHO) guidelines[33]. The study dentist used a plastic disposable dental

mirror and a head piece light to screen the children and with light finger pressure opened the child's mouth, cleaned the teeth with gauze pads, and examined all teeth in a systematic fashion. Dull disposable explorers were used for plaque removal and early caries confirmation[33]. In accordance with WHO criteria, caries were documented if a tooth had a lesion in a pit or fissure, or on a smooth surface, with an unmistakable cavity, undermined enamel, or a detectable softened floor or wall[33]. A pit or fissure pre-cavitated lesion was defined as a lesion with significant discoloration or rough spots in the enamel without a visible break in the enamel surface[33]. This definition included smooth surfaces and pits and fissures that were brown at the base with a chalky, white demineralization along the sides [33].

The data were recorded on the screening form and included carious lesions or active decay, early decay or incipient lesion limited to enamel and decalcification, existing restorations, sealants, ECC and S-ECC (Appendix D). A dental screening result sheet was then given to all the mothers encouraging six months check ups and referrals for urgent and routine dental services (Appendix E1 & E2).

Incentives. All participating mothers received complimentary toothpaste, and appropriate professional hand-outs regarding oral health/ nutrition in English or Spanish, information on how to obtain a free battery operated Sponge Bob toothbrush from Colgate Smile Line (Appendix G) and a list of San Antonio area public dental clinics that accepted Medicaid, CHIP and offered sliding scale fees (Appendix H). The children received complimentary oral health screenings, coloring pages (Appendix F1 &F2) and crayons.

Data Collection. The data were collected by a combination of clinical oral health screenings of the children and administration of two questionnaires to the mothers (CSRCH, WIC clinic).

Quantitative Analysis. Data were coded (Appendix I) and analyzed using SAS/STAT software for Windows Version 8.2 [34]. The ARSMA-II questionnaire was scored using the instruction provided by the author[4]. "Scale 1 of ARSMA-II[3] used in the study is a 30-item self-rating scale composed of an Anglo Orientation Subscale (AOS) of 13 items (Items 2, 4, 7, 9, 10, 13, 15, 16, 19, 23, 25, 27, and 30) and a Mexican Orientation Subscale (MOS) composed of 17 items (Items 1, 3, 5, 6, 8, 11, 12, 14, 17, 18, 20, 21, 22, 24, 26, 28, and 29). The sum of the AOS scale is divided by 13 to obtain a mean score for that subscale. The sum of the MOS is divided by 17 to obtain a mean for that subscale. The MOS mean is subtracted from the AOS mean to obtain a linear acculturation score that represents an individual's score along a continuum from very Mexican oriented to very Anglo oriented[4]. For analysis and correlation of the KABS[2 30] variables with the Acculturation levels Chi Square statistics was used to show any associations between binary responses and multiple dependent variables of acculturation levels.

Demographic variables. Demographic independent variables included: maternal age, maternal marital status, maternal employment status, maternal and paternal education and location (country) where it was obtained, maternal zip codes, age of the mother's first and last dental visits, age of the child, age of child's first dental visit. Other independent variables included: status of children's dental insurance, method of feeding infant (breast/bottle), who provided day-time care for infant/child, frequency and duration of children's tooth brushing practices, supervision of children's tooth brushing, children's tap/bottle water consumption, and children's candy and Gatorade habits. The dependent variable was the maternal acculturation levels.

H. FINDINGS

Descriptive Analysis. The two hundred and four mothers between ages of 17-43 years old participated in the study. Approximately 27% of participants were in age group of 25-29 years of age with the mean maternal age of 26.3 years (Figure 2). Maternal educational level ranged from 3-16 years where the mean maternal education level was 11.31 years. While most of the mothers were educated in the US (79.95%), approximately one-fifth (20.1%) were educated in Mexico. While 71.5 percent of the mothers were employed inside the home, 28.4 percent worked outside the home in areas such as restaurants and fast food industry, retail, housekeeping, while 3.4% or seven participants were attending college or technical schools for post-secondary degrees (Table 2). The majority of the mothers had their first dental visit (54.9%) before elementary school (Figure 4). Over half (51%) had not visited a dentist over the past year. Most mothers (74%) personally provided overall care for their children at home. Reported mean paternal educational level was 10.9 years and 75.5 percent were educated in the US (Figure 5). The majority of mothers (63%) were married or lived with a partner (Figure 6). Study participants relied on relatives to help with children, including mother's parents, aunts, siblings, and in-laws. Thirty nine mothers only spoke Spanish and 165 were English speakers.

The children, 111 boys and 93 girls ranged from 5-47 months (Figure 7) with a mean age of 28.5 months. Eighty three percent were insured with Medicaid and 6% were insured under CHIP. Only 1% of the subjects had private insurance and 10% reported having no dental insurance at all (Figure 8). While 37% of the children had never been to the dentist, 45% had seen a dentist between 12-13 months of age (Figure 9). The majority (39%) of mothers brushed their children's teeth and 3% of the mothers did not routinely brush their child's teeth (Figure 10). Most children (52%) had their teeth brushed 2 or more times daily with a few of the children (5%) did not have their teeth brushed at all (Figure 11).

The mean average age of child's first tooth eruption was at 6.58 months and the mean average number of teeth present was at 16.4 teeth. Some children (20.1%) had active decay; while others had early decay (33.3%). A significant subgroup of children (42.2%) was diagnosed with ECC. Among this group, 29.4% were found to have S-ECC. Only six children had a total of eight sealants.

Mother and child lived in the surrounding geographical zip codes adjacent to the WIC Clinic (Figure 12). Seventy four percent of mothers provided care to their children on a daily basis while 26% relied on family support for child care (Figure 13). Eighty nine percent of the children were bottle-fed and 52.9% were breast-fed (some mothers used both practices). Mean duration of breast-feeding was 6.83 months compared to a mean of 13.21 months for bottle-feeding of the infants. Other feeding habits included: drinking Gatorade (44.6%), candy consumption (78.4%), where the majority of children (37.2%) had candy every week. Fifty percent of the children were drinking bottled water.

Assessment of Reliability. Survey reliability was measured by the test-retest method of correlation for KABS[2 32] questionnaire. The acculturation questionnaire was already validated[4]. Examiner reliability was conducted by random re-examination of 9.9% of the sample population of children. Re-examinations occurred anywhere from 4-47 days after the initial screenings. Results of Kappa test indicated that there is ~100% agreement (Simple Kappa at 1.0) between the separate dental screenings performed on the same child for the diagnosis of ECC/S-ECC.

Demographic characteristics of study population. Maternal acculturation levels were categorized into five levels ranging from very Mexican oriented (16.7%), Mexican oriented to bicultural (17.6%), Slightly Anglo oriented/ bicultural (45.6%), Strongly Anglo oriented (17.6%)

to very assimilated; anglicided (2.5 %), see Figure 1, Table 1. The means and standard deviations obtained for ARSMA-II were Anglo Oriented Subscale (AOS) with a mean of 3.84 and SD= 0.87 as well as Mexican Oriented Subscale (MOS) with a mean of 3.73 and SD= 0.79. The majority of the mothers were in the slightly-strongly Anglo oriented/bicultural group. Demographic data are shown in Table 3. No significant associations were found between maternal acculturation levels with status of children's dental insurance, daily care for the children, maternal employment status and live in status of the mothers. There were significant associations between the maternal levels of acculturation with maternal education levels (χ^2 =16.52, P= 0.01*) and whether or not the mother was educated in the US (χ^2 =144.92, P= 0.0001*).

Maternal acculturation levels and dental health behaviors. Mother's first dental visit (χ^2 = 28.42 and P = 0.0001*) was significantly associated with acculturation, see Table 4. No association was observed between acculturation and maternal dental visit(s) in the last year, supervision and frequency of children's tooth brushing, and status of children's dental insurance. Other variables that influenced maternal acculturation were maternal income (reported household income under 185 % of federal poverty level) and Medicaid mandate for children's first dental visit by age 1.

Feeding habits of the children. There were strong associations between maternal acculturation levels and breast feeding practices (χ^2 = 12.09, P= 0.007*), duration of bottle feeding (χ2 = 16.12, P= 0.013), tap water usage (χ^2 = 17.32, P= 0.0006*) and bottle water usage (χ^2 = 8.41, P= 0.03), see Table 3. There was no significant association between maternal acculturation levels with duration of breast-feeding, bottle feeding practices of the mothers, Gatorade use and frequency and duration of candy consumption (Table 3).

Children with ECC+ and S-ECC status. The level of children affected by S-ECC and acculturation had a stronger association than that of ECC (χ^2=6.71, *P*=0.0816 for S-ECC and χ^2 =4.35, *P*=0.22 for ECC). See Figure 14. Twenty one percent of the children had untreated active decay while 33.3% had untreated early decay (Figure 15).

Comparison of mothers with AOS acculturation levels than those with MOS and factors related to dental health behaviors and feeding habits influencing oral health status of the children. The two main categories of acculturation were AOS/bicultural and MOS/bicultural. All the existing associations were stronger in the slightly Anglo oriented/ bicultural group. Mothers in this category were more likely to have had high school education from the US and the children had fathers that were more likely to be educated from the US (Table 3). The AOS/bicultural level groups were more likely to have visited the dentist for the first time at elementary school level (χ^2 =28.42, *P*= 0.0001*) see Table 4, were more likely to give their children tap water (χ^2= 17.32, P=0.0006*), to a lesser extent gave bottled water to their children (χ^2=8.41, P=0 .03*), breast-fed their infants (χ^2= 12.09, P=0.007*) and followed breast feeding with bottle-feeding practices from 12-24 months (χ^2=16.12 P=0.013*), see Table 5.

I. DISCUSSION

There were significant associations between mothers who belonged to the slightly-strongly Anglo oriented/bicultural group and the oral health practices of their children. The profile of mothers who belonged to the AOS acculturation level was women who had an elementary level education (9-12 years) from the US, had her first dental visit at the elementary school level, breastfed her infant, followed breast-feeding with bottle feeding up to 23 months and dispensed tap water to her child (49.3%).

The study found strong associations related to maternal education levels and education in the United States as well as if a maternal first dental visit occurred prior to or at the elementary school level. The latter finding is supported by community oral health promotion efforts targeting a subpopulation of children at risk during elementary school in San Antonio, i.e. Edgewood Independent school-based programs with collaboration from UTHSCSA. It was also noted that mothers belonging to the AOS acculturation levels were more likely to breast feed followed by bottle feeding, which is mainly due to the emphasis that CSRH, WIC clinic has placed upon increasing breastfeeding practices. Breastfeeding is a beneficial practice that is positively correlated with health outcomes including oral health. NHANES-III reports that 40% of WIC children are breastfed for at least 6 months or more[35] compared to 53.5% of participant mothers who breastfed for 3-11 months in this study (Table 5).

The bottled water consumption had significant associations with maternal AOS acculturation levels (Table 5). This is possibly due to the fact that drinking bottled water is considered "chic," upscale and according to some of the mothers' comments provides freedom of mobility since it is available at vending machines and stores all over San Antonio. One mother expressed that in her opinion tap water was unsafe to drink because she had heard this on the news.

Tap water consumption also had significant associations with AOS acculturation levels (Table 5). Question 15 of KABS[2 30] addressed the issue of community water fluoridation and its benefits to oral health. Although some participant mothers were aware of the fact that fluoridation of community water systems in San Antonio was beneficial to their children's oral health, the majority indicated they neither agree nor disagree. An inference could be made that tap water was readily available to the mothers at a nominal cost upon usage. Per Oral Health Screening questions, the mothers typically gave juice, Gatorade, Kool Aid, lemonade, and/or tea

with sugar and milk to their children, which left little room for much water consumption. Some mothers gave both tap and bottled water to their children. WIC needs to emphasize that what goes into the cup for the child is as important as the usage of the cup and that water consumption should be encouraged. In summary, the above associations for the mothers belonging to the Mexican Oriented Subscales (MOS), the observations were in the least likely direction such as the MOS mothers were less likely to breastfeed their children, give the children tap water and have had their education in the US.

Twenty nine percent of children had an S-ECC status and 42% had ECC (Figure 14). Although the association between ECC/S-ECC and acculturation was not statistically significant (χ^2=4.35, p=0.226 for ECC and χ^2=6.71, p=0.081 for S-ECC) the level of caries experience is high enough to be alarming. Twenty one percent of active decay and 33% of early decay was untreated in this child population (Figure 15). This is a disturbing rate for children that not only have access to care (Figure 8) but also have resources such as WIC available to them (on a quarterly basis). Even though CSRCH, WIC clinic has successfully raised maternal awareness by influencing children's health and supporting breastfeeding programs, despite all their efforts the participant children are still experiencing stronger than average ECC rates. The increase in ECC rates could be partially due to alternative caregivers (e.g. grandparents) beliefs, nutritional and oral health practices for the children when in their care (Figure 13), and maternal acculturation levels. Although candy usage was not strongly associated with maternal acculturation levels (χ^2=3.28, p=0.35), of the 23% of participant mothers that provided candy on a daily basis to their children, 16.9% belonged to the AOS acculturation level. Of the 47.5% who provided candy weekly to their children, 28.8% were in the AOS acculturation level. Mothers at times reported frustration that the caregivers (mainly grandparents) provided candy

despite the maternal preferences. Although the use of Gatorade did not have an association with maternal acculturation levels (χ^2=3.68, p=0.298), of the 44.6% of mothers who provided Gatorade to their children, 31.8% belonged to the AOS acculturation levels.

It should be noted that oral health habits were reported by mothers, and the effectiveness of delivery remains unknown. The current study, while supporting the long-held belief that acculturation may influence the susceptibility of oral health status, demonstrates that other variables such as maternal levels of education, maternal first dental visit at around elementary school, parental education in the US, bottled water, and tap water consumption variables were associated with acculturation.

The use of two separate scales, one for Mexican culture and one for Anglo culture, made it possible to measure acculturation by using a multidimensional frame to further show how measures of oral health could influence acculturation. However, in order to see any substantial significance a much larger sample size is required. A larger sample size could provide greater discrimination between the levels of acculturation and could possibly provide more significant associations regarding acculturation influences.

The MOS acculturation level mothers faced information differences. The word Anglo was unknown to a number of them and only when explained in terms of 'gringo' was it understood. Prior to the distribution of results forms (Appendix E1 and E2), the word abscess was unfamiliar to some UTHSCSA staff members (also Mexican-American) who were reviewing the form for context reliability. For a few mothers this confusion (i.e. the meaning of abscess) continued even after investigator's clarification. Some AOS mothers did not comprehend the word prevention, despite efforts to provide questionnaires at an 8th grade level. One participant confused IRB with IRS, declining to participate. Overall, the MOS mothers especially those

who only spoke Spanish spent more time analyzing and responding to the questions and needed clarifications more often than the AOS group, which brings us back to influences of acculturation regarding language preference and utilization of health services[19]

J. CONCLUSION

One explanation for the favorable oral health associations with mothers of AOS acculturation levels could be that these women were exposed to the oral health care delivery system since entering elementary school in San Antonio, had their education at Texas high schools and were fluent in the English language. Overall, mothers had a slightly higher mean educational level than the men who fathered their children (11.3 years compared to 10.9 for the fathers) and in particular there was a strong association between high school education and AOS acculturation level. No associations were observed with maternal dental visit in the last year and acculturation, despite the 2002 survey of Bexar County[36], where those with a college education had the highest level of dental exams in the past year. This could be explained somewhat by the fact that some acculturation levels included as few as 5 women, and limited observations could potentially affect associations. The overall trend was that when mothers belonged to an AOS acculturation level, the children had a more positive oral health outcome. This finding supports that of a study suggesting that individuals with higher acculturation may have better access to preventive services and/or may have adopted behaviors that lead to better oral health than those with lower acculturation[37]. Literacy inequity may be an important factor in health disparities, and a powerful avenue for alleviation efforts.

Even though the ECC/S-ECC status of the children did not statistically yield a significant association (0.05 or less) with AOS acculturation levels, 70.3% of mothers in this group had

children without ECC and 70.1% had children without S-ECC. The remaining 30% of the children had encountered ECC/S-ECC, which remains high. Also, the levels of untreated decay were high (Figure 15) for this age group. During the course of the study, awareness was raised with regards to oral health and children were referred for dental check-ups. A few mothers on a later visit reported that their child had been seen for dental examination and treatment per study referral and this by itself satisfied oral health promotion efforts.

K. LIMITATIONS & DIRECTIONS FOR FUTURE RESEARCH

The primary limitation of the study was enrolling a convenience sample of mothers attending CSRCH WIC clinic. These mothers already had exposures to oral health education and access to dental care because of Medicaid insurance and nutritional consultations. However, this was the only way to gain access to a predominantly Mexican-American mother group and their children of 0-47 months old that had access to oral health care and were SES stratified for income. Nevertheless, future studies should strive to attain a more representative cross-section of San Antonio's Mexican-American population. Furthermore, since acculturation is no longer a pan-cultural concept and acculturation scales are adapted to specifically maximize outcome prediction, future studies should increase the sample size used in order to enhance the validity of the findings.

Lessons Learned. We could not make inferences for the entire Mexican-American population living in San Antonio. Although the participants were predominantly Mexican-Americans, they were also WIC attendees. The bulk of data was self-reported and despite all efforts, we had missing data or incomplete responses. Allowing more time for data construction early in the study would have led to a more efficient end result. The time needed to obtain multiple IRB

approvals as well as hospital credentials cannot be understated. Lastly, the translation and explanations of Spanish to non-English-speaking mothers was not a standardized process where people of different backgrounds were involved, which in turn may affect the outcomes by misunderstandings and misreporting.

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List of Tables

Table 1. Cutting scores for determining maternal acculturation levels using ARSMA-II Scale 1

Acculturation Levels	Description	ARSMA-II Acculturation Score
Level 1	Very Mexican oriented	< -1.33
Level II	Mexican oriented to approximately balanced bicultural	≥ -1.33 and ≤ - 0.07
Level III	Slightly Angle oriented bicultural	>-0.07 and <1.19
Level IV	Strongly Anglo oriented	≥1.19 and < 2.45
Level V	Very assimilated; Anglicized	> 2.45

Raw scores means were used to calculate the acculturation scores. Choices were selected for each item by adding and dividing the number of items of MOS and AOS scales separately to obtain the raw score means for each scale. The means were then used into the formula of Acculturation score = AOS mean – MOS mean

*Cuéllar, Arnold, & Maldonado, 1995

Table 2. The Employment categories for participating women attending CSRCH, WIC, Clinic at San Antonio, TX

Industry	Position
Business	• Office assistant/receptionist/mail room clerk • Accounting clerk • Website support tech/customer service information • Bank manager
Daycare	• Private childcare to include head start program
Education	• Students/trainee for medical secretary & dental assistant
Health Care	• Certified nurses assistants & elderly care • Pharmacy technician
Labor/Housekeeping	• Janitors • Laundry services in nursing homes • Factory clerks
Restaurant and fast food	• Cashiers • Food service preparation/ cooks/server • Dishwasher • Waitress/bartenders
Retail	• Cashier • Supervisor/assistant manager • Stocker

Table 3. Demographic associations of maternal levels of acculturation and test analysis for CSRCH, WIC Clinic, San Antonio, TX

	N	%	χ^2	*P*
Children's dental insurance				
No Insurance	20	9.8		
Medicaid	168	82.4		
CHIP	13	6.4		
Other	3	1.5		
			8.68	0.46
Who looks after the child				
Mother	151	74		
Relatives/other	53	25.9		
			6.70	0.08
Mother's education				
Elementary (3-8 years)	18	8.8		
Secondary (9-12 years)	151	74.0		
College level (13-16 years)	35	17.2		
			16.52	0.01*
Location of Mother's Education				
US	163	79.9		
Mexico	41	20.1		
			144.92	0.0001*
Father's education				
Uncertain	4	2		
Elementary (2-8 years)	26	12.7		
Secondary (9-12 years)	149	73		
College level (13-18 years)	25	12.3		
			11.95	0.06
Location of Father's Education				
US	154	76.2		
Mexico	48	23.8		
			98.56	0.0001*
Mother's Employment Status				
Employed	58	28.4		
Unemployed	146	71.6		
			4.10	0.25
Living arrangement of the mother				
Married /live with a partner	130	64		
Other	73	35.9		
			5.37	0.14

* Significant at $P = 0.05$

Table 4. Associations of maternal acculturation levels and test analysis for dental health behaviors of participants at CSRCH, WIC Clinic, San Antonio, TX

	N	%	χ^2	*P*
Mother's dental visit in the last year				
Not at all	104	51		
1-2 times in the last year	100	49		
			4.44	0.21
Mother's first dental visit				
Elementary	171	84.2		
Jr./Sr. High -Adult	32	15.8		
			28.42	0.0001*
Supervision of children's brushing				
Mom does supervise	150	75.7		
Mom does not supervise	48	24.3	2.52	0.47
Frequency of children's brushing				
None	28	13.9		
Once daily	67	33.3		
More than once daily	106	52.7	6.60	0.36
Status of child's dental insurance				
No Insurance	20	9.8		
Medicaid	168	82.3		
CHIP	13	6.4		
Other	3	1.5	8.68	0.46

*Significant at $P = 0.05$

Table 5. Association between maternal acculturation levels and test analysis for feeding habits of screened children at CSRCH, WIC Clinic, San Antonio, TX

	N	%	χ^2	*P*
Breast-fed				
Yes	108	53.5		
No	94	46.5		
Missing = 2				
			12.09	0.007*
Duration of Breast-feeding				
Less than 3 months	34	31.5		
3-11 months	47	43.5		
12 months+	27	25		
			3.02	0.80
Bottle-fed				
Yes	181	89.6		
No	21	10.4		
Missing = 2				
			3.92	0.26
Duration of Bottle-feeding				
0-11 months	54	29.2		
12- 23 months	113	61		
24 months+	18	9.8		
Missing = 19				
			16.12	0.013*
Gatorade				
Yes	91	44.6		
No	113	55.4		
			3.68	0.29
Candy				
Yes	160	84.3		
No	34	17.5		
Missing = 10				
			3.27	0.35
Frequency of candy consumption				
Daily	37	23.1		
Weekly	76	47.5		
Other	47	29.4		
Missing = 44				
			5.67	0.46
Tap water				
Yes	126	62.7		
No	75	37.3		
Missing = 3				
			17.32	0.0006*
Bottle water				
Yes	102	49.3		
No	99	50.7		
			8.41	0 .03*

* Significant at $P = 0.05$

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Figure 1. Distribution of maternal acculturation levels for participants at CHRISTUS Santa Rosa Children Hospital, WIC clinic, San Antonio, TX

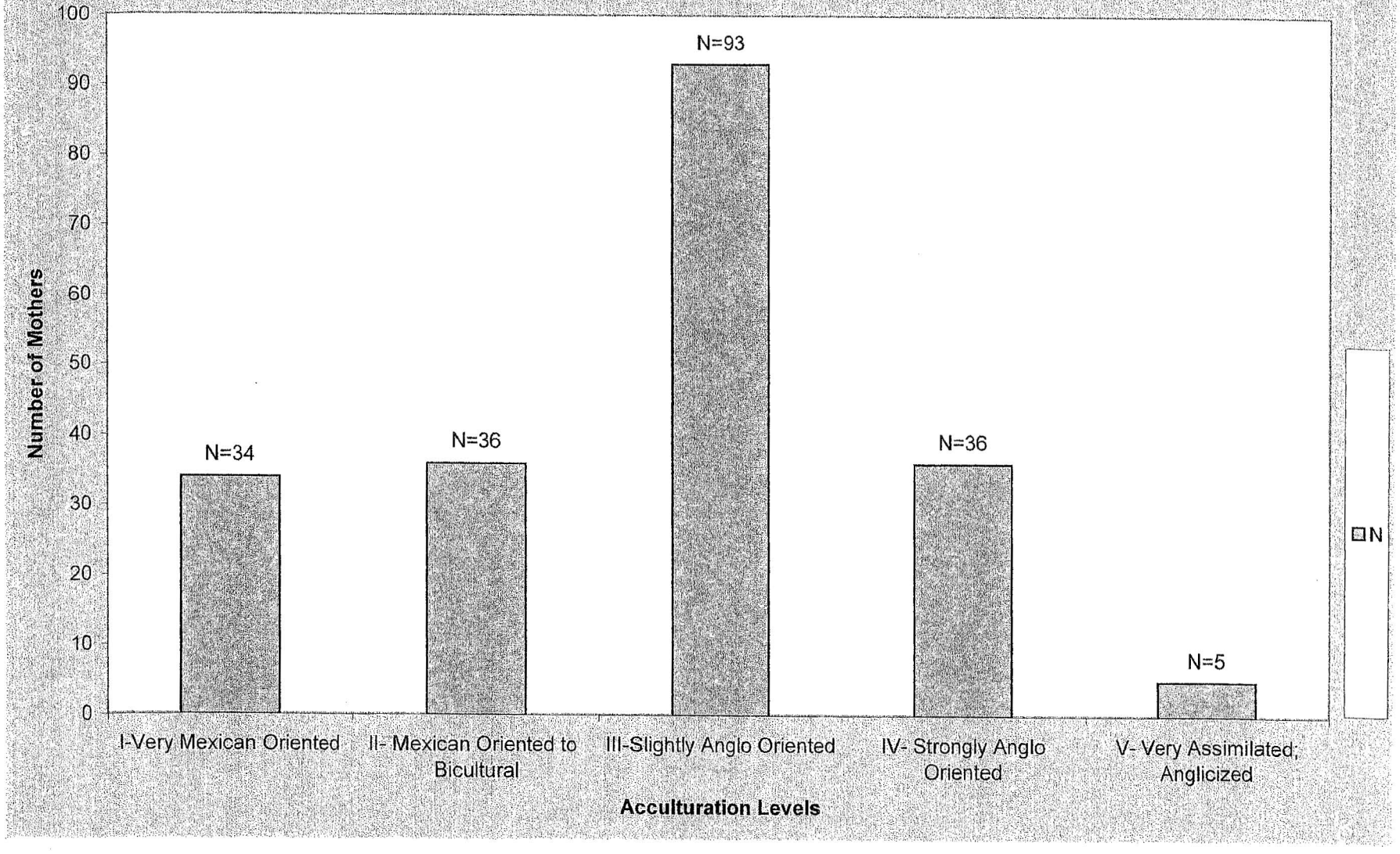


Figure 2. Proportion distribution of maternal age (years) for participants at CHRISTUS Santa Rosa Children Hospital, WIC clinic, San Antonio, TX

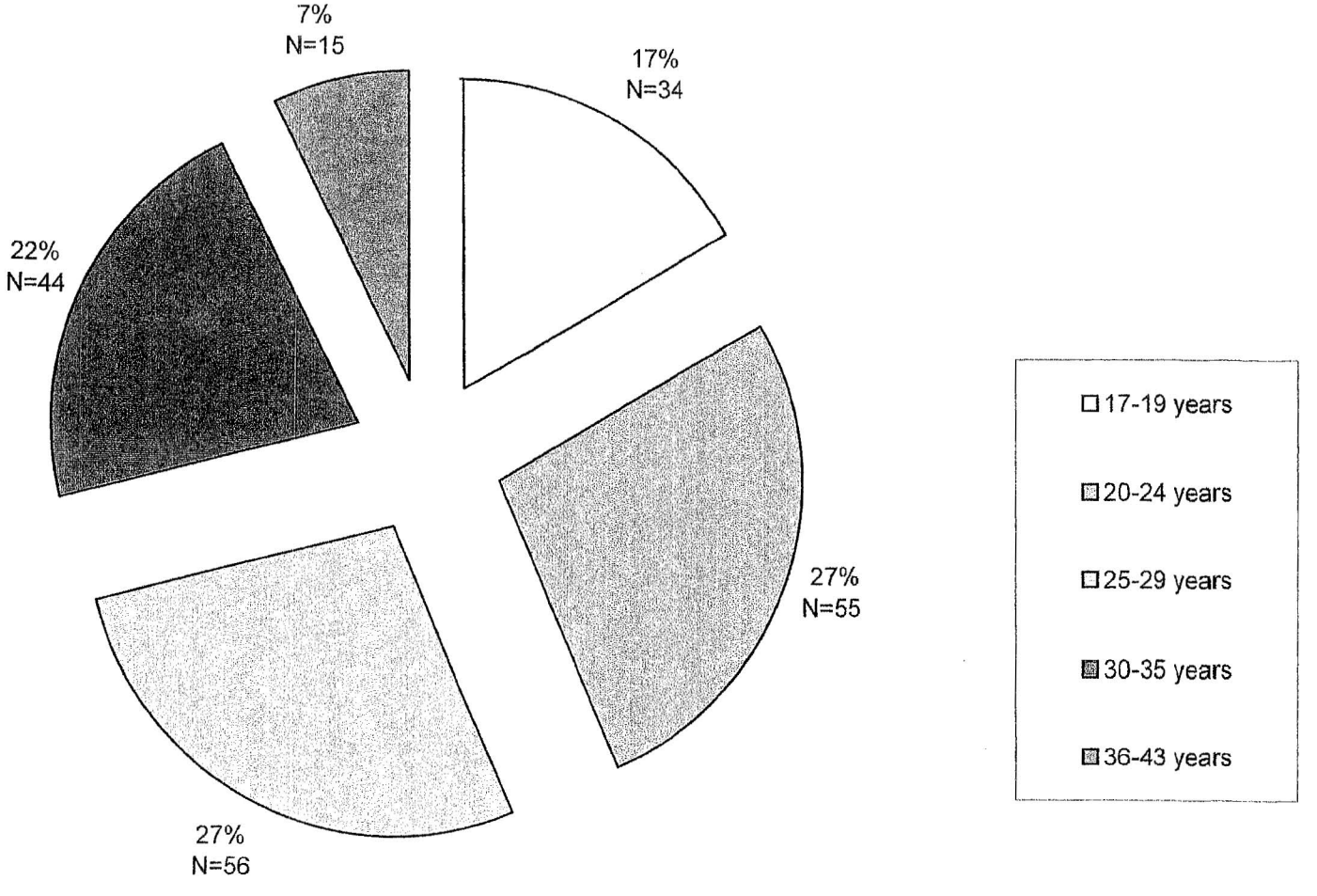


Figure 3. Distribution of the maternal educational levels (years) for participants at CHRISTUS Santa Rosa Children Hospital, WIC clinic , San Antonio,TX

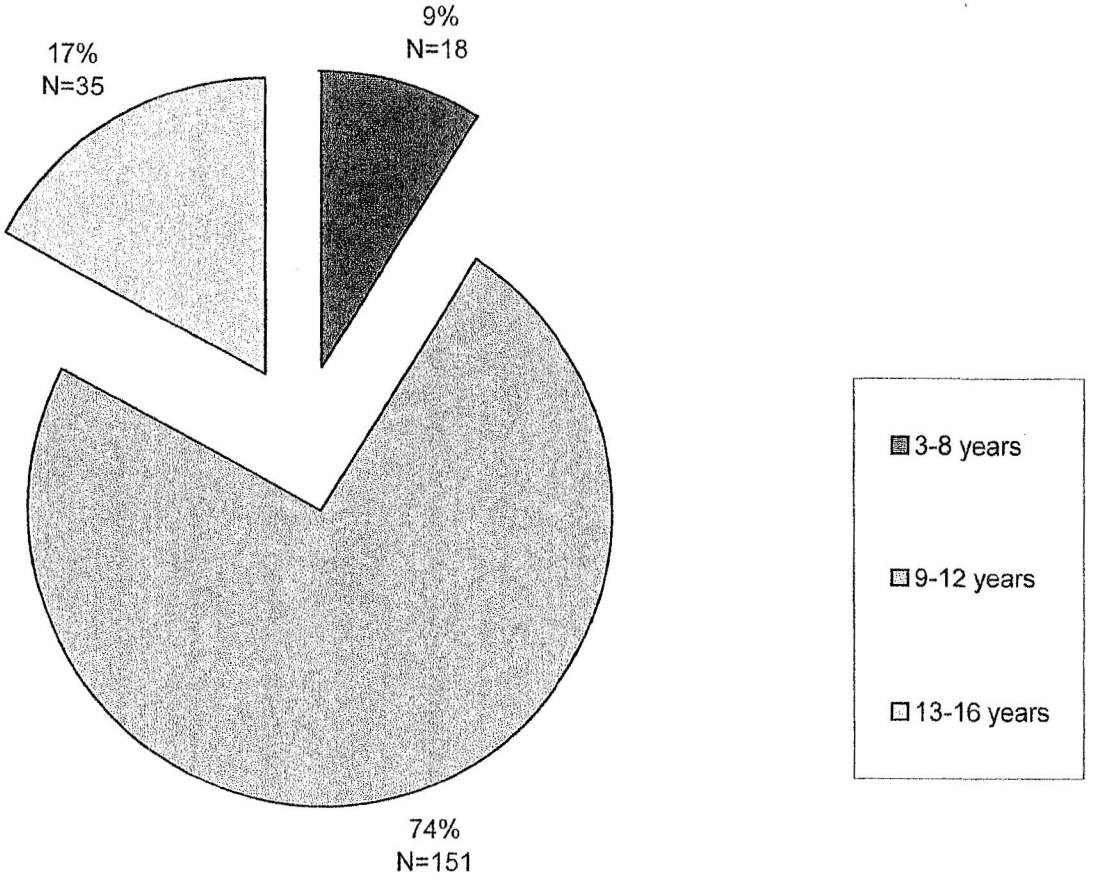


Figure 4. Distribution of maternal first dental visit for participants at Christus Santa Rosa Children Hospital, WIC clinic, San Antonio, TX

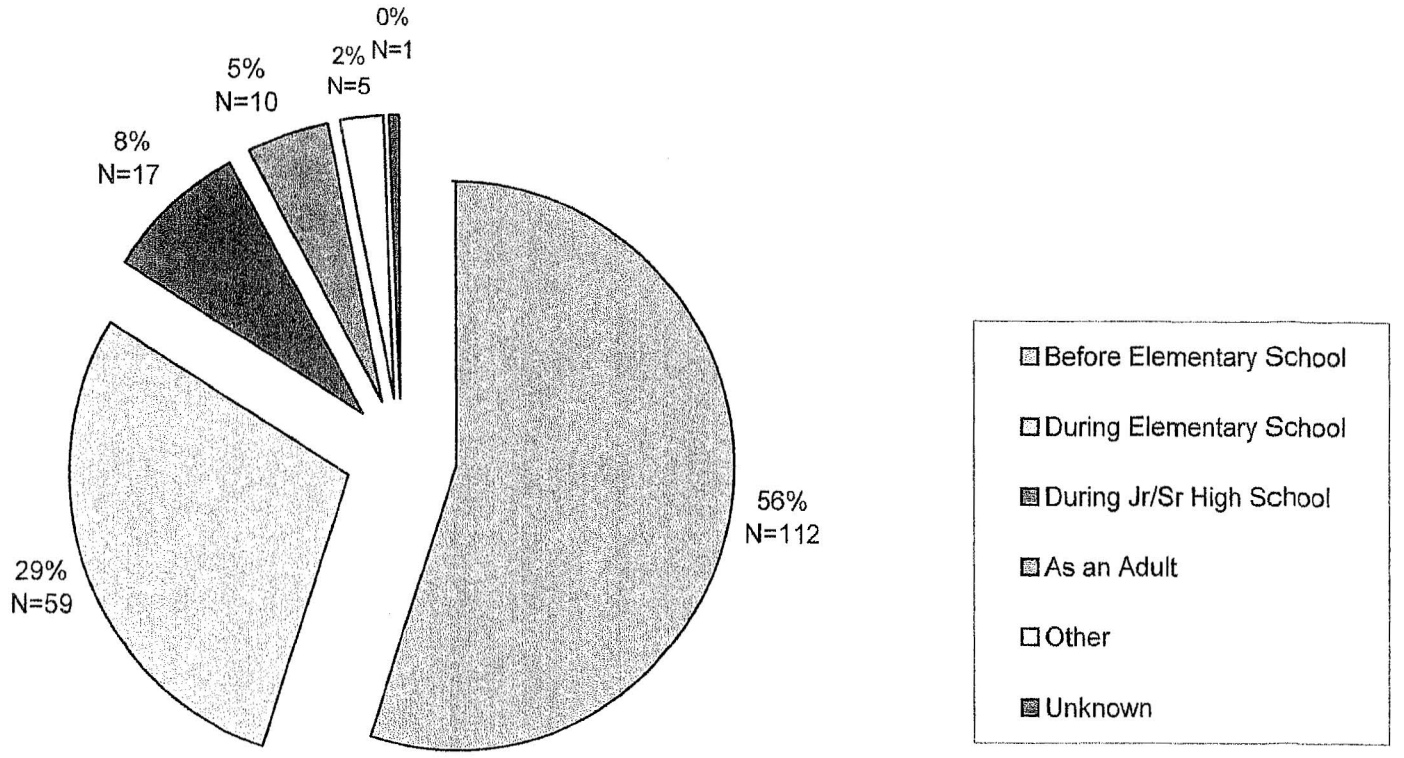


Figure 5. Distribution of the paternal educational level (years) for screened children at CHRISTUS Santa Rosa Children Hospital, WIC clinic, San Antonio, TX

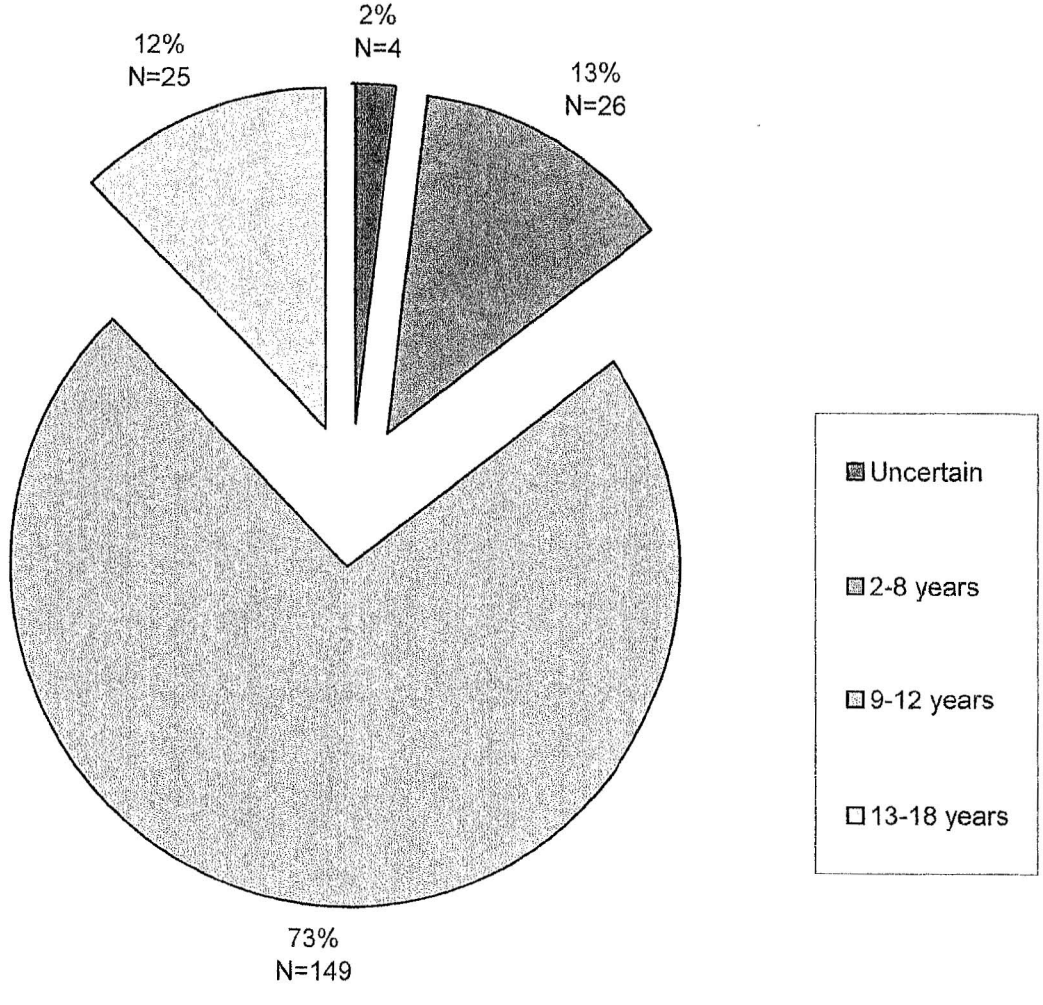


Figure 6. Distribution of maternal living arraignment for participants at Christus Santa Rosa Children Hospital, WIC clinic, San Antonio, TX

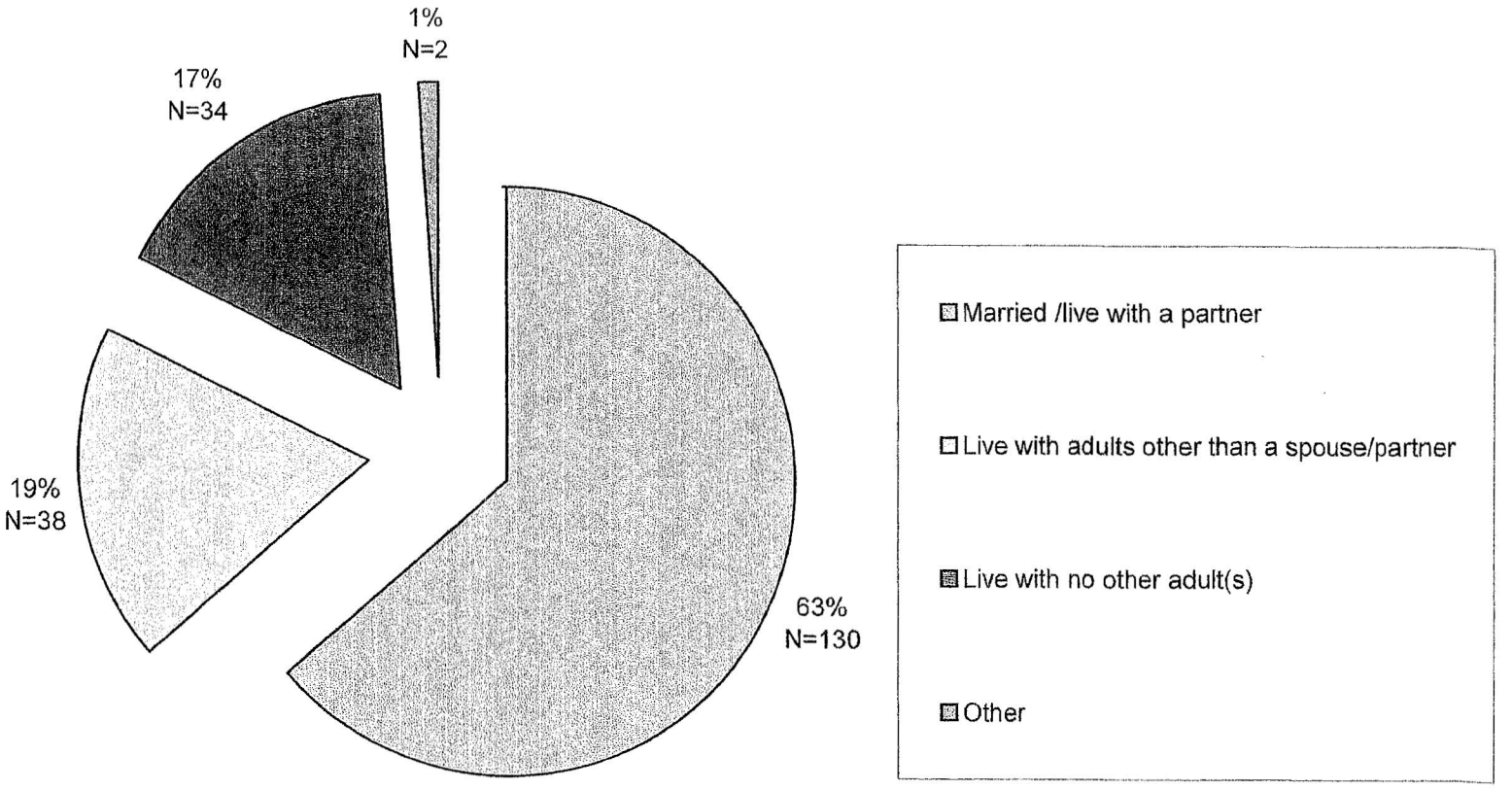


Figure 7. Age distribution (months) for children screened at CHRISTUS Santa Rosa Children Hospital, WIC clinic, San Antonio, TX

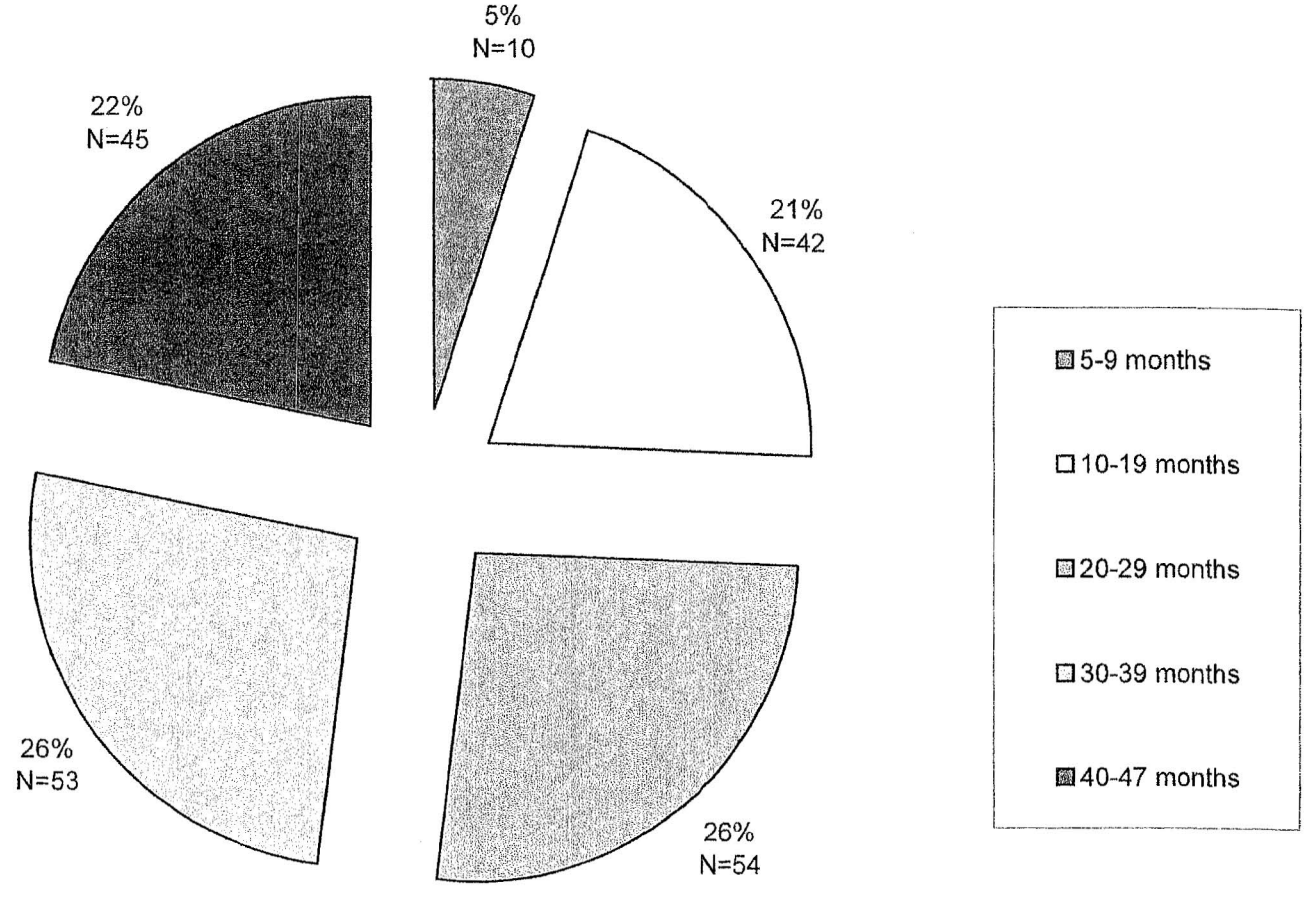


Figure 8. Distribution of dental insurance status for screened children at CHRISTUS Santa Rosa Children Hospital, WIC clinic, San Antonio, TX

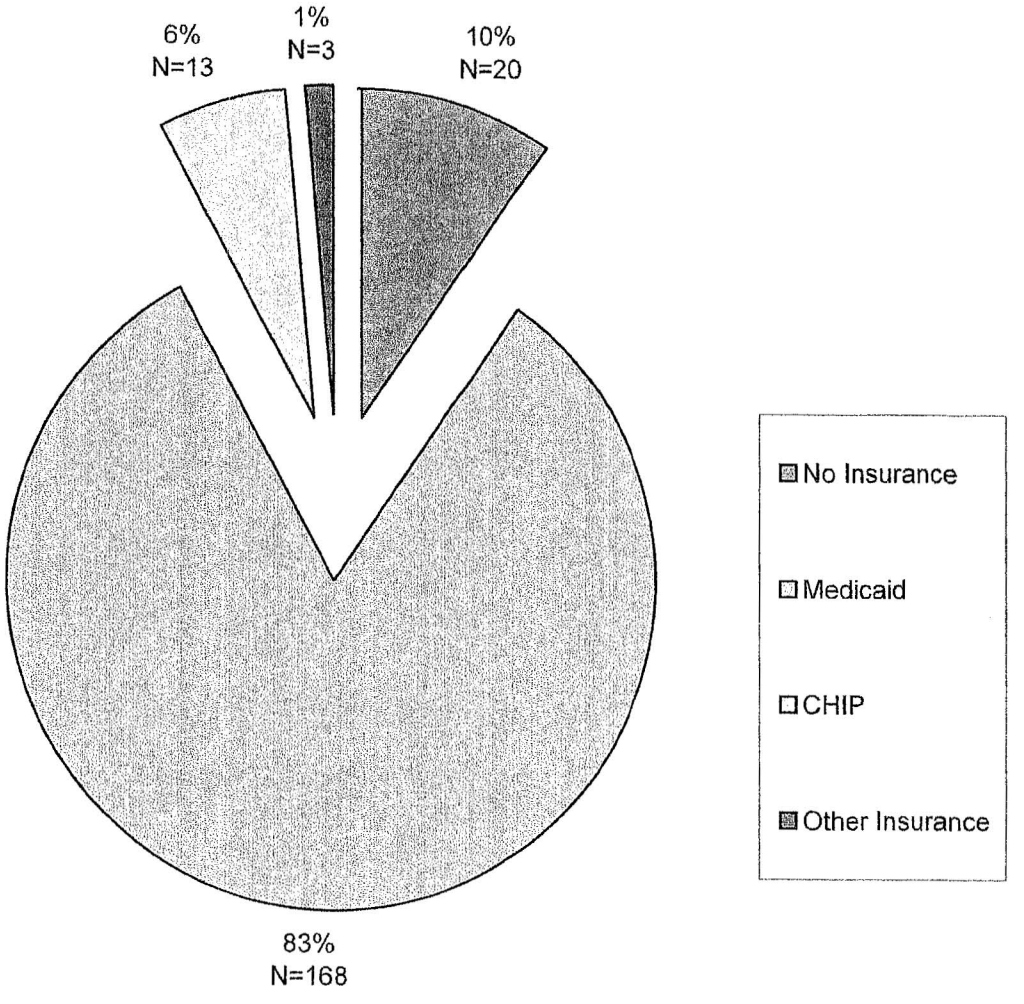


Figure 9. Distribution of screened children's (0-47 months) first dental visit for CHRISTUS Santa Rosa Children Hospital, WIC clinic, San Antonio, TX

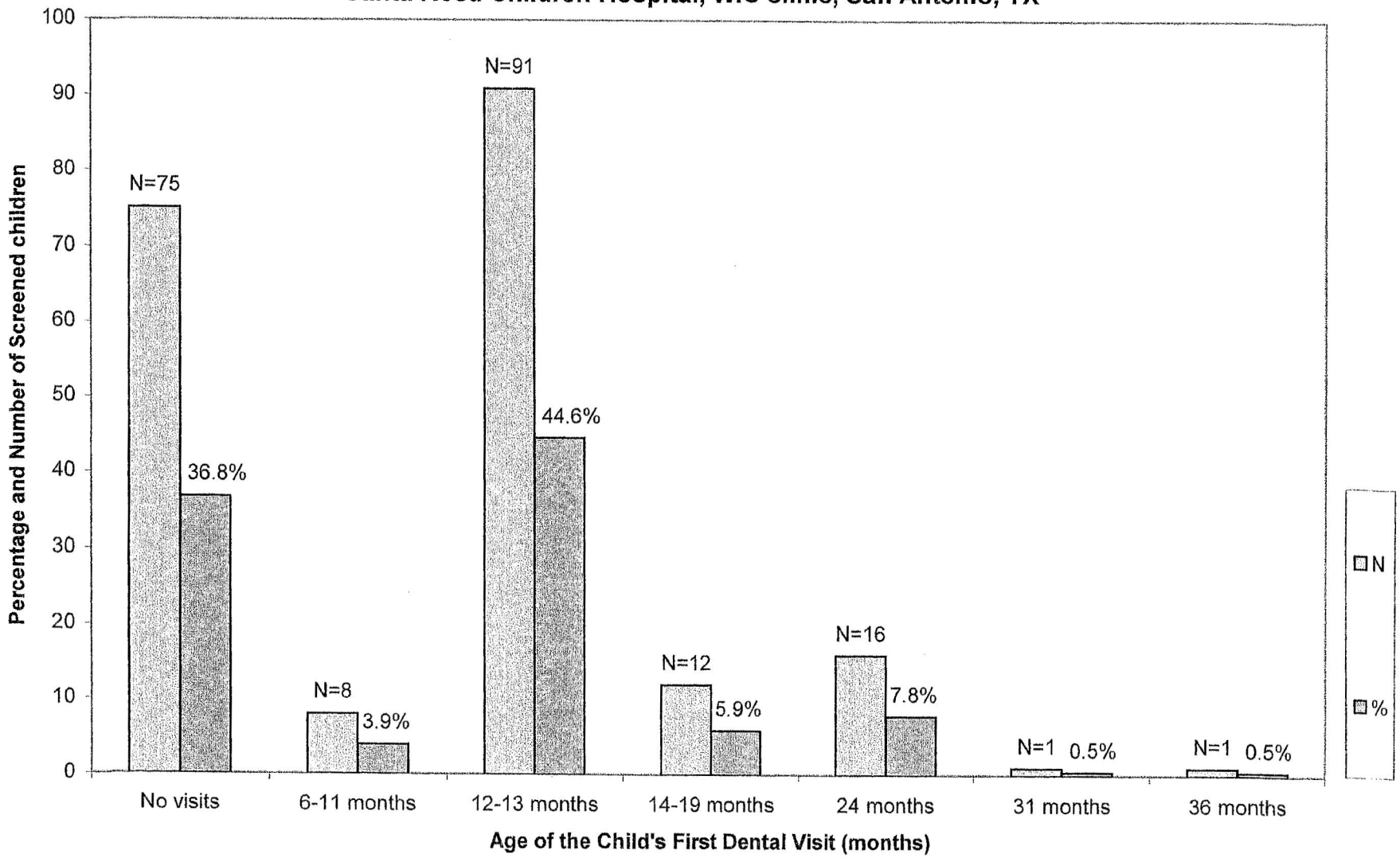


Figure 10. Distribution of tooth-brushing supervision for children screened at CHRISTUS Santa Rosa Children Hospital, WIC clinic, San Antonio, TX

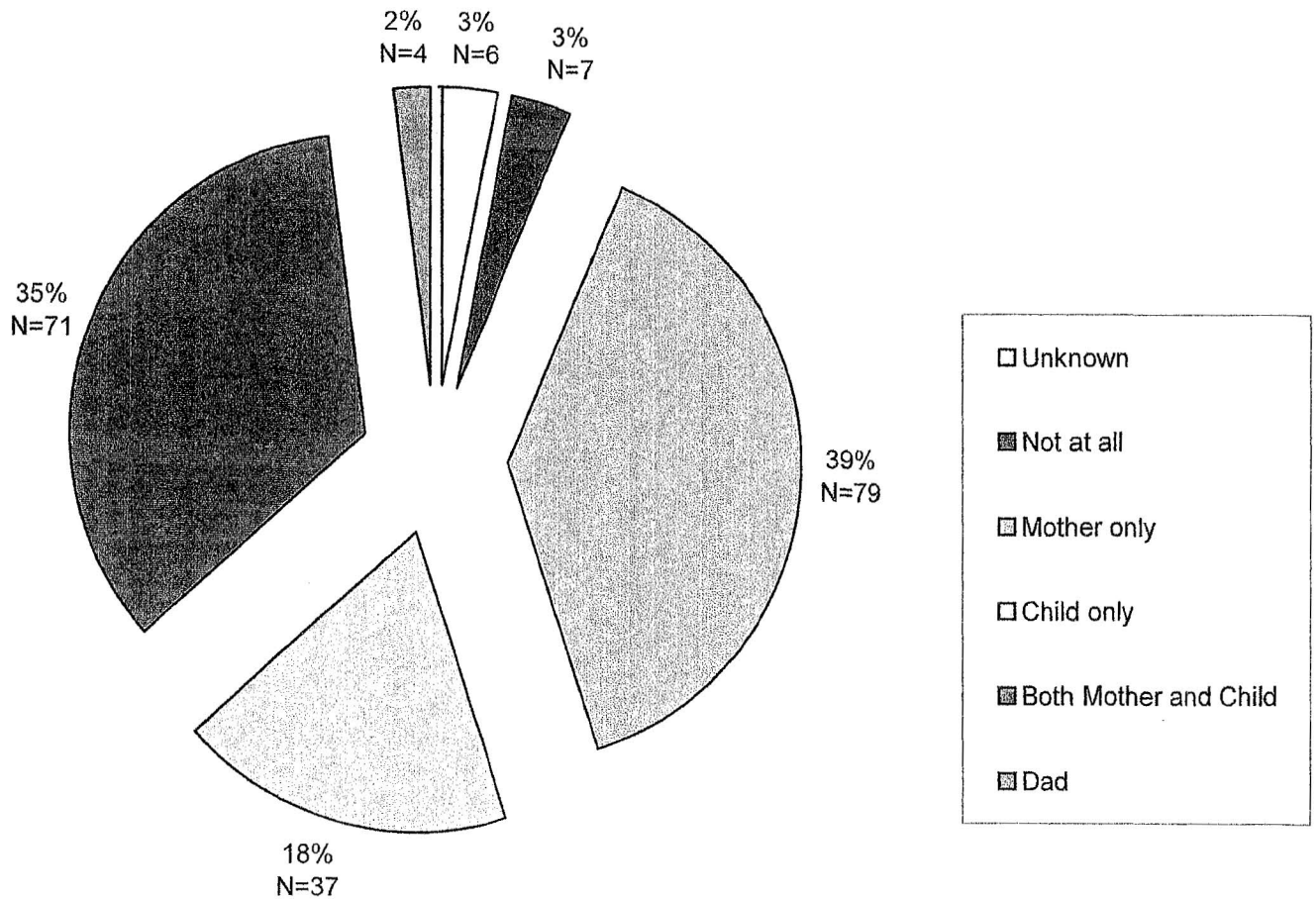


Figure 11. Distribution of tooth-brushing frequency for screened children at CHRISTUS Santa Rosa Children Hospital, WIC clinic, San Antonio, TX

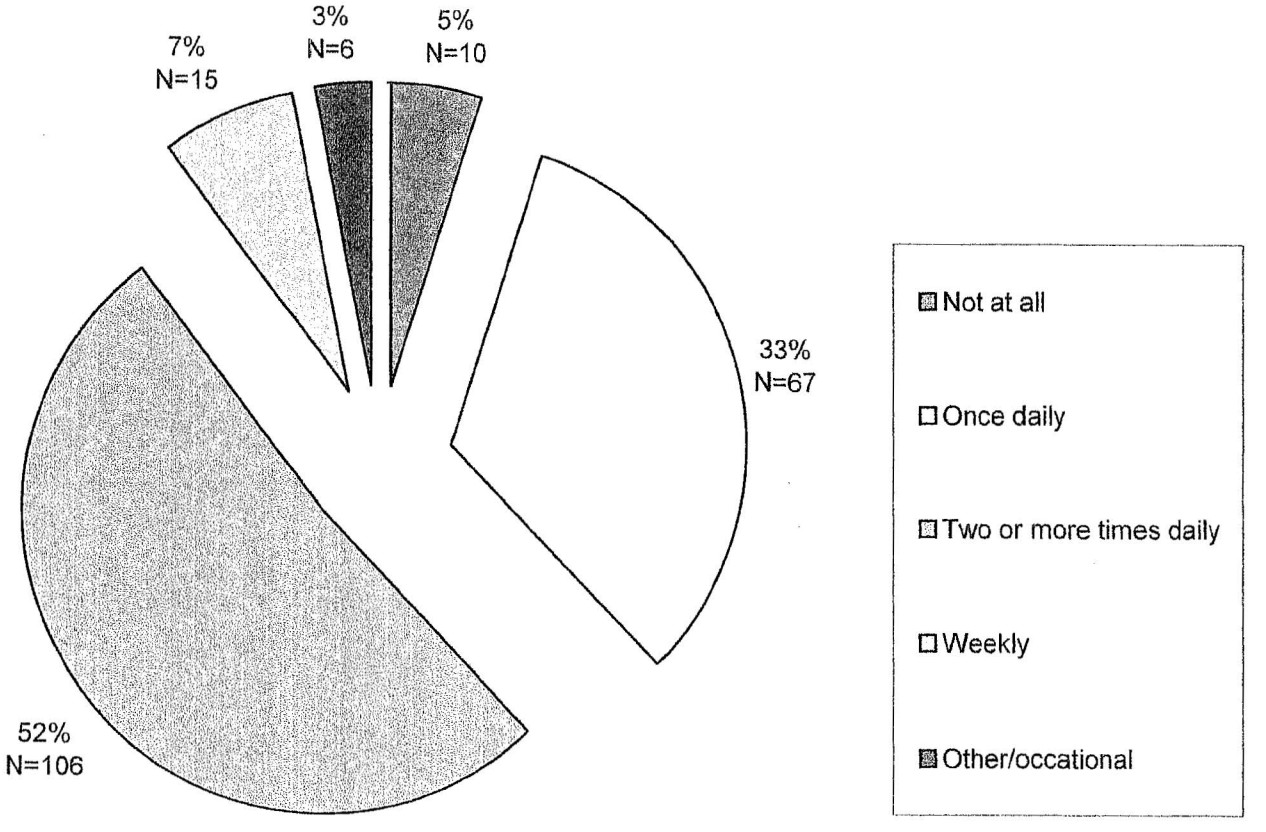


Figure 12. Distribution of maternal zip codes for CHRISTUS Santa Rosa Children Hospital, WIC clinic, San Antonio, TX

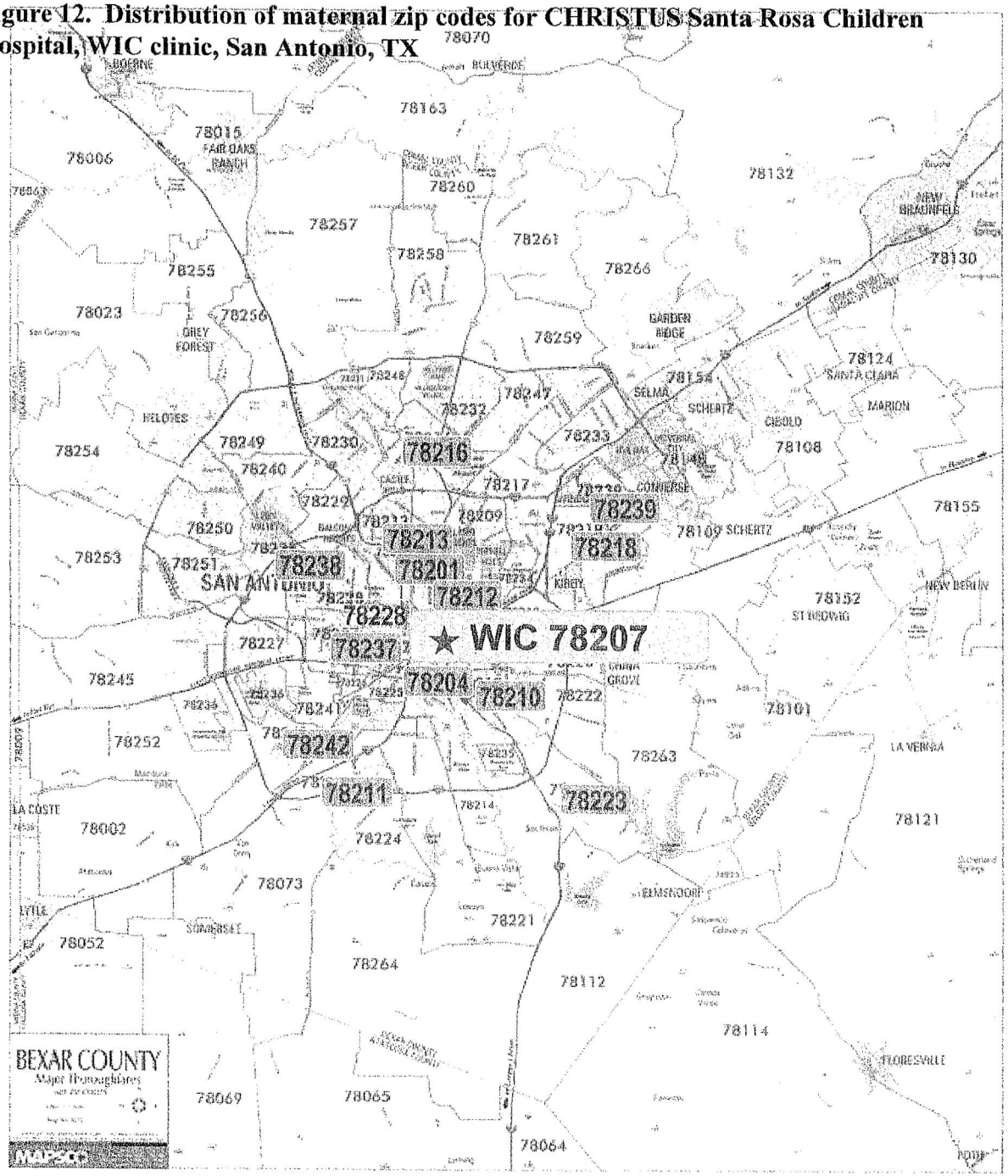


Figure 13. Distribution of who provides care for the children screened at CHRISTUS Santa Rosa Children Hospital, WIC clinic, San Antonio, TX

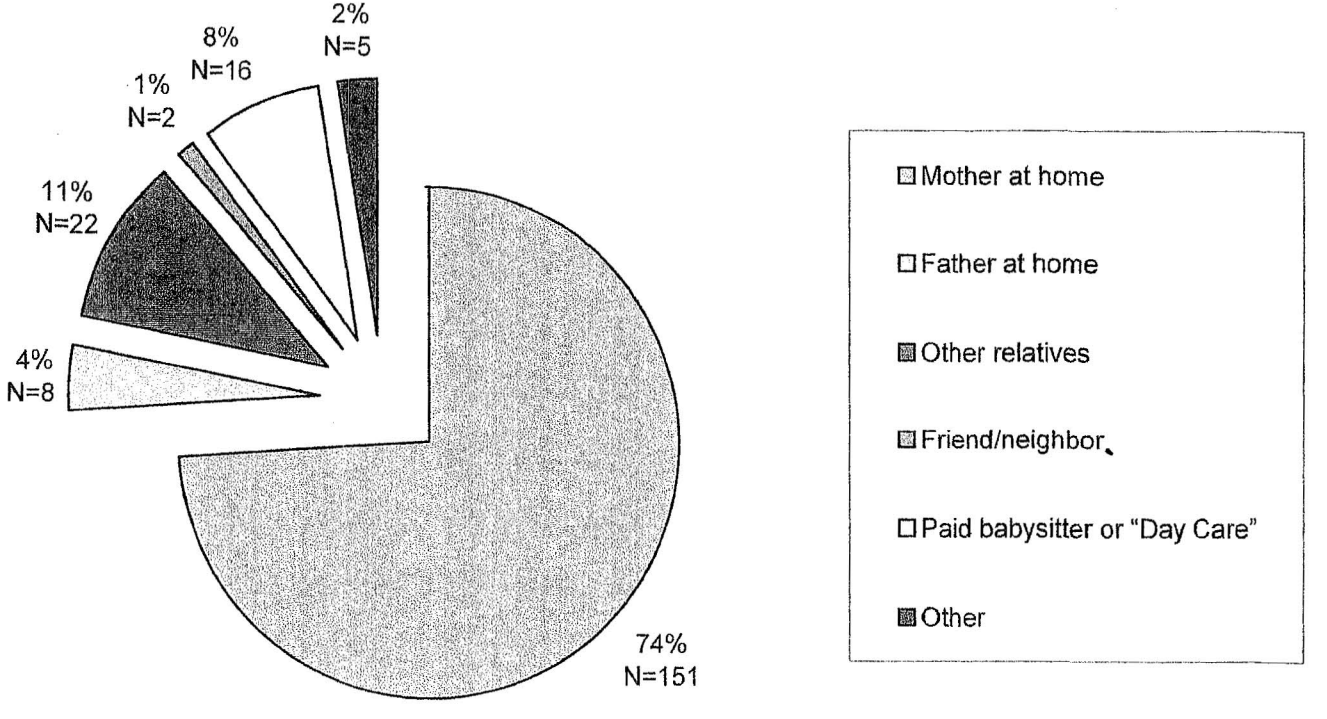
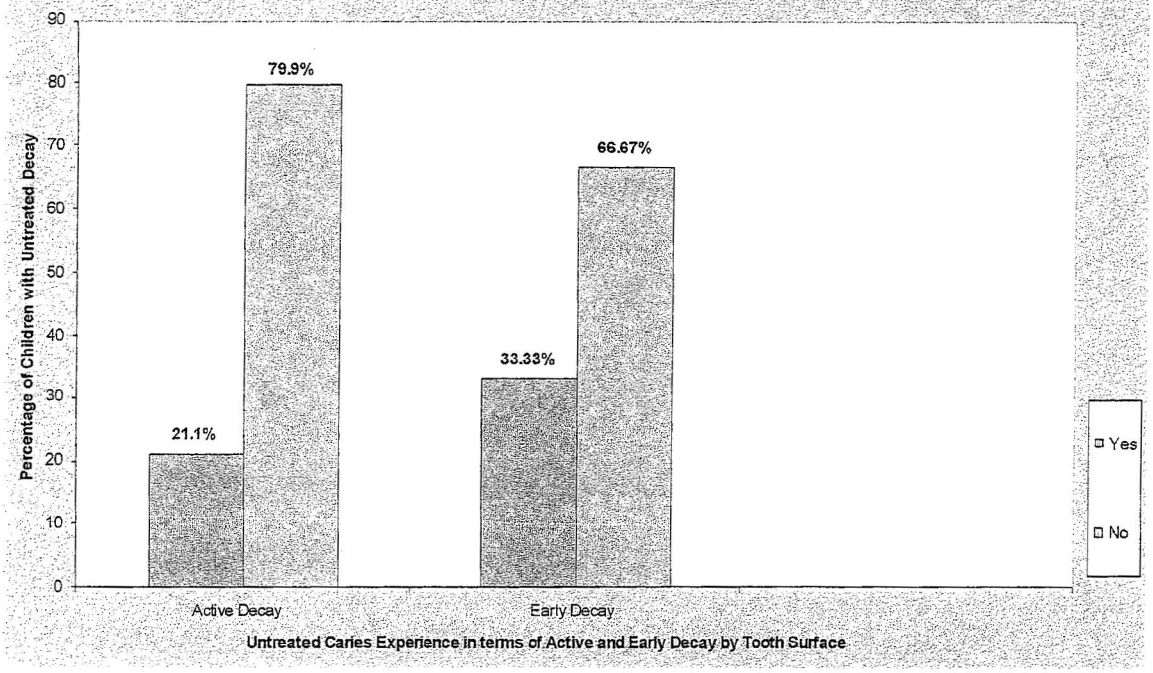
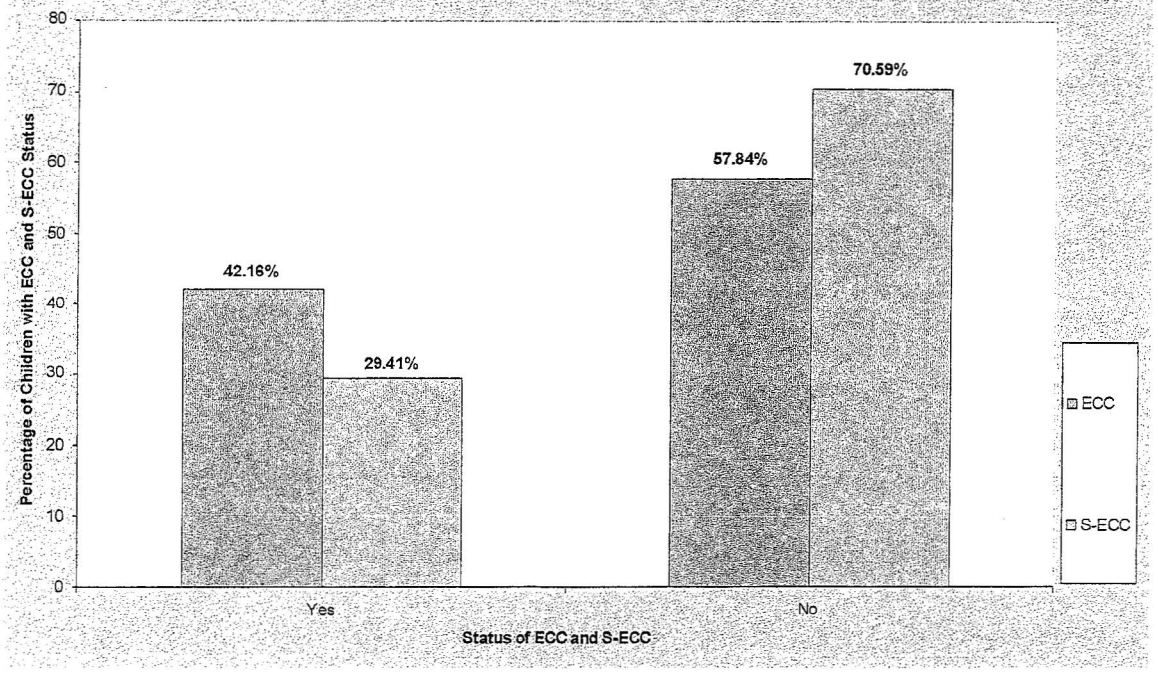


Figure 14. Distribution of untreatd decay (surfaces) for screened children at *CHRISTUS Santa* Rosa Children Hospital, WIC clinic, San Antonio, TX



Untreated Caries Experience in terms of Active and Early Decay by Tooth Surface

Figure 15. ECC and S-ECC rates for screened children at CHRISTUS Santa Rosa Children Hospital, WIC clinic, San Antonio, TX



Appendix List

SUBJECT CONSENT TO TAKE PART IN A STUDY OF

Influence of Acculturation on Measures of Oral Health and Evaluation of Nutrition/Oral Health Survey Instrument Reliability

The University of Texas Health Science Center at San Antonio
To be conducted at CHRISTUS Santa Rosa Health Care W.I.C. Program

INFORMATION ABOUT THE RESEARCH

What is the research about? We are asking you to take part in a research study of culture, nutrition, and dental health. [1] We want to learn how your feelings regarding your culture and nutrition affect your thoughts about dental health. We also want to learn the relationship of those thoughts about your culture to your child's dental health. We are asking you to take part in this study because you are the parent of a child who is 3 years of age or younger, enrolled in the Special Food Supplement Program for Women, Infants, and Children (WIC) run by the CHRISTUS Santa Rosa Health Care W.I.C. Program.

Who is conducting the study and how many people will take part? Moshtagh R. Farokhi D.D.S., M.P.H., F.A.G.D. and Sue E.D. Cunningham, M.S., R.D./L.D., C.D.E. are conducting the study. The University of Texas Health Science Center at San Antonio is sponsoring this study. A total of 200 women and children will take part in this study. [27]

What will be done if you decide to be in the research? If you decide to take part, we will ask you how you feel and what you think about your culture and health issues such as nutrition. We will be interested in finding out how your feelings about your culture and nutrition affect your thoughts about dental health by having you answer two questionnaires of 30 each. We will also conduct a dental screening for cavities of your child who is 3 years of age or younger. A trained dentist will look for dental cavities which is called a dental screening. Answering the questionnaires and conducting the dental screening will take approximately one (1) hour. [5] In 10-14 days, a member of the study staff will call you to ask you the same questions over the phone.

What are the risks of participation in the research? The known risks with this study are: discomfort sharing your thoughts or opinions, your child's possible unwillingness to have his or her teeth looked at, or a loss in the confidentiality of your or your baby's health information.

Would there be problems if you decide to stop taking part in this research before it is finished? If you decide to withdraw from this study early, there will not be any consequences from early withdrawal. [26]

Are there benefits to taking part in this research? You will not benefit directly from participating in the study.

Are there other options? You have the option to not participate in this study if you do not want to.

Will there be any compensation for participation? No

Will there be any costs related to the research? No

What if a research-related injury occurs? If you or your child are injured as a result of the research procedures, your/your child's injury will be treated. You will be responsible for any charges. We have no plans to give you money if you/your child are injured.

SUBJECT CONSENT TO TAKE PART IN A STUDY OF
Influence of Acculturation on Measures of Oral Health and Evaluation of Nutrition/Oral Health Survey Instrument Reliability

CONFIDENTIALITY

What is Protected Health Information (PHI)? Protected Health Information is information about a person's health that includes information that would make it possible to figure out whose it is. According to the law, you have the right to decide who can see your protected health information. If you choose to take part in this study, you will be giving your permission to the investigators and the research study staff (Moshtagh Farokhi and Sue Cunningham) to see and use your health information for this research study. In carrying out this research, the health information we will see and use about you/your child will include: your child's medical history and date of birth, information you give us during your participation in the study such as during interviews or from questionnaires, demographic information like your age, marital status, the type of work you do and the years of education you have completed.

We will get this information by asking you in the form of questionnaires.

How will your PHI be shared? Because this is a research study, we will be unable keep your/your child's PHI completely confidential. We may share your health information with people and groups involved in overseeing this research study including:

- Drs John P. Brown and David P. Cappelli who are also working on this study at the University of Texas Health Science Center at San Antonio.
- The committee that checks the study data on an ongoing basis, to determine if the study should be stopped for any reason,
- The investigators at the University of Texas Health Science Center at San Antonio.
- The Institutional Review Board and the Compliance Office of the University of Texas Health Science Center at San Antonio, the CHRISTUS Santa Rosa Health Care Research Projects Office and other groups that oversee how research studies are carried out.

Parts of your PHI may be photocopied and sent to a central location or it may be transmitted electronically, such as by e-mail or fax.

The groups receiving your health information may not be obligated to keep it private. They may pass information on to other groups or individuals not named here

If you decide to participate in this study, you will be giving your permission for the groups named above, to see and share your health information. If you choose not to let these groups see and share your health information as explained above, you will **not** be able to participate in the research study.

How will your PHI be protected? In an effort to protect your privacy, the study staff will use code numbers instead of your name, to identify your health information. Initials and numbers will be used on any photocopies of your study records. If the results of this study are reported in medical journals or at meetings, you will not be identified.

Do you have to be in this study? Being in the study is voluntary. You are free to choose not to be in this study or to stop being in this study at any time. You are also free not let the researchers and other groups see and share your health information. If you choose not to be in the study or not to let the researchers and other groups use your health information, there will be no penalties. In other words, you will still be able to get medical treatments without being in the study and it will not affect your eligibility for any health plan or any health plan benefits or payments you may be eligible for.

What if you change your mind? You may ask the researchers to stop using your health information at any time. However, you need to say this in writing and send your letter to Sue E.D. Cunningham, Department of Community Dentistry, University of Texas Health Science at San Antonio, 7703 Floyd Curl Drive (MC 7917), San Antonio, TX 78229-3900. If you tell the researchers to stop using your health information, your participation in the study will end and the study staff will stop collecting new health information from you

SUBJECT CONSENT TO TAKE PART IN A STUDY OF
Influence of Acculturation on Measures of Oral Health and Evaluation of Nutrition/Oral Health Survey Instrument Reliability

and about you for this study. However, the study staff will continue to use the health information collected up to the time they receive your letter asking them to stop.

Can you ask to see the PHI that is collected about you for this study? The federal rules say that you can see the health information that we collect about you and use in this study. Contact the study staff if you have a need to review your PHI collected for this study. Because of the type of research, you can only access your PHI when the study is done. At that time, you have the right to see and copy the medical information we collect about you during the study, for as long as that information is kept by the study staff and other groups involved. This authorization expires six years after the study is finished.

How long will your PHI be used? By signing this form, you agree to let us use and disclose your health information for purposes of the study at any time in the future. There is no expiration date because we do not know how long it will take us to finish doing all of the analyses and we will need to use your health information for as long as it takes.

What to do if you have questions or need to report a problem? If you have questions now, feel free to ask us. If you have additional questions later or you wish to report a medical problem which may be related to this study, Sue Cunningham, M.S., R.D./L.D., C.D.E can be reached at 210-567-4589 or 210-230-2742 (digital pager). To use the pager, you need to have a touch tone (push button) telephone. Dial the pager number as you would any phone number. When you hear 3 short high pitched beeps, dial in the number where you want the doctor to call you back. Push the # button, hang up and wait for Sue Cunningham to return your call). If she is not available, Moshtagh Farokhi, D.D.S., M.P.H., F.A.G.D. may be reached at 210-567-3194 or 210-567-3200.

The University of Texas Health Science Center committee that reviews research on human subjects (Institutional Review Board) will answer any questions about your rights as a research subject (210-567-2351).

You will be given a signed copy of this form to keep.

SIGN THIS FORM ONLY IF ALL OF THE FOLLOWING ARE TRUE:

- You have voluntarily decided to take part in this research study.
- You authorize the collection, uses and sharing of your protected health information as described in this form.
- You have read the above information.
- Your questions have been answered to your satisfaction and you believe you understand all of the information given about this study and about the use and disclosure of your health information.

_____ _____
Signature of Subject Date & Time Signed by Subject

_____
Printed Name of Subject

_____ _____
Signature of Witness Printed Name of Witness

_____ _____
Signature of Person Obtaining Consent Printed Name and Title of Person Obtaining Consent

CONSENTIMIENTO DEL SUJETO PARA PARTICIPAR EN EL ESTUDIO DE INVESTIGACIÓN
De La influencia de la Cultura sobre las Medidas de Salud Oral y Evaluación de la Nutrición/Instrumento de Revalidación de preguntas de Salud Oral

The University of Texas Health Science Center at San Antonio
Para ser conducido por CHRISTUS Santa Rosa Health Care W.I.C. Program

INFORMACIÓN SOBRE LA INVESTIGACIÓN

¿De qué se trata la investigación?
Nosotros le estamos pidiendo que participe en un estudio de investigación acerca de la cultura, nutrición, y la salud dental. Queremos aprender cuáles son sus sentimientos acerca de la cultura y lo que piensa acerca de los efectos de la nutrición en la salud oral. También queremos aprender qué relación tienen esos pensamientos con respecto a la cultura y la salud oral de su niño(a). Le estamos pidiendo que participe en este estudio porque usted es la madre de un niño/a que tiene 3 años de edad o más joven que participa en el Programa Especial de Suplemento de Alimentación para Mujeres (Madres), Bebés y Niños llamada en Inglés, Special Food Supplement Program for Women, Infants, and Children (WIC) administrado por CHRISTUS Santa Rosa Health Care W.I.C. Program.

¿Cuántas personas participarán en el estudio de investigación?
Moshtagh R. Farokhi, D.D.S., M.P.H., F.A.G.D. and Sue E.D. Cunningham, M.S., R.D./L.D., C.D.E. are conducting the study. The University of Texas Health Science Center at San Antonio está patrocinando este estudio. Un total de 200 mujeres y niños participarán en este estudio.

¿Qué sucederá si usted decide estar en la investigación?
Si usted decide participar, nosotros le preguntaremos acerca de sus sentimientos y lo que piensa acerca de su cultura y temas de salud como la nutrición. Nosotros estamos interesados en aprender cómo sus sentimientos acerca de la cultura y nutrición afectan sus pensamientos con relación a la salud dental por medio de dos cuestionarios de 30 preguntas cada uno. También se le hará una inspección oral de caries a su niños(as) menores de 3 años. Un odontólogo profesional inspeccionará la boca de su niño(a) a ver si tiene caries, esto se llama una inspección dental. Contestar las preguntas y hacer la inspección tomará aproximadamente una (1) hora. De 10-14 días, uno de los empleados del estudio le llamará por teléfono para hacerle las mismas preguntas.

¿Cuáles son los riesgos al participar en la investigación?
Los riesgos que se conocen asociados con este estudio son: incomodidad al compartir sus pensamientos u opiniones, el que su niño(a) no se deje inspeccionar los dientes, o inseguridad de que la información de salud de usted o de su niño/a no sea guardada en estricta confidencialidad.

¿Habrá problemas si decido dejar de participar en esta investigación antes que se haya completado?
Si usted decide retirarse de este estudio antes que se haya completado, no habrá ninguna consecuencia si deja de participar al comienzo del estudio.

¿Habrá beneficios al participar en esta investigación?
Como individuo usted no recibirá ningún beneficio por participar en este estudio.

¿Habrá otras opciones [tratamientos alternativos]?
No

¿Tendrá alguna compensación por la participación?
No

¿Habrá algunos costos relacionados a la investigación?
No

CONSENTIMIENTO DEL SUJETO PARA PARTICIPAR EN EL ESTUDIO DE INVESTIGACIÓN
De La influencia de la Cultura sobre las Medidas de Salud Oral y Evaluación de la Nutrición/Instrumento de Revalidación de preguntas de Salud Oral

¿Qué sucederá si sufre una lesión que esté relacionada a la investigación?
Si usted sufre de alguna lesión como resultado de los procedimientos de la investigación, su lesión será tratada. Usted será responsable de cualquier gasto. No tenemos planes de darle dinero si usted sufre una lesión.

CONFIDENCIALIDAD

¿Qué es Información Protegida de Salud (siglas en Inglés PHI)?
Información Protegida de Salud es información sobre la salud de una persona la cual incluye información que haría posible saber de quién es. Nosotros utilizaremos el término "su PHI" como una manera más corta de decir "su información protegida de salud (your protected health information)". De acuerdo a la ley, usted tiene el derecho de decidir quién puede ver su información de salud. Si usted decide participar en este estudio, usted le dará su permiso a los investigadores y al personal del estudio de la investigación and the research study staff (Moshtagh Farokhi y Sue Cunningham) para ver y usar su información de salud para este estudio de investigación. Al realizar esta investigación, la información de salud que veremos y usaremos sobre usted incluirá: la historial médica de su niño/a y la fecha de nacimiento, información que nos dé durante su participación en el estudio, tales como, durante las entrevistas o de los cuestionarios, información demográfica como su edad, estado marital, el tipo de trabajo que desempeña y los años de educación ya completados.

Nosotros obtendremos esta información acerca de usted por medio de cuestionarios.

¿Cómo será compartido su PHI?
Debido a que este es un estudio de investigación, no podremos mantener su PHI completamente confidencial. Podríamos compartir su información de salud con las personas y grupos que están involucrados en revisar este estudio de investigación, incluyendo:

- Dres. John P. Brown and David P. Cappelli quienes también trabajan en este estudio en la University of Texas Health Science Center at San Antonio
- el comité que verifica continuamente los datos del estudio, va a determinar si el estudio podría suspenderse por cualquiera razón,
- los investigadores en la University of Texas Health Science Center at San Antonio
- El Institutional Review Board y la Compliance Office de la University of Texas Health Science Center at San Antonio, CHRISTUS Santa Rosa Health Care Research Projects Office y otros grupos que revisan, en cómo se han realizado los estudios de investigación.

Partes de su PHI pueden ser fotocopiadas y enviadas a un lugar central o pueden ser transmitidas electrónicamente, tales como por correo electrónico o fax.

Los grupos que están recibiendo su información de salud pueden que no estén obligados para mantenerlo en forma confidencial. Ellos pueden pasar la información a otros grupos o individuos no nombrados aquí.

Si usted decide participar en este estudio, usted dará su permiso a los grupos nombrados anteriormente, para ver y compartir su información de salud. Si usted elige no dejar que estos grupos vean y compartan su información de salud como es explicado anteriormente, usted **no** podrá participar en el estudio de investigación.

¿Cómo será protegido su PHI?
En un esfuerzo para proteger su privacidad, el personal del estudio usará números de códigos en lugar de su nombre, para identificar su información de salud. Se usarán sus iniciales y números en algunas fotocopias de sus expedientes del estudio. Si los resultados de este estudio son reportados en revistas médicas o en juntas, usted no será identificado.

CONSENTIMIENTO DEL SUJETO PARA PARTICIPAR EN EL ESTUDIO DE INVESTIGACIÓN
De La influencia de la Cultura sobre las Medidas de Salud Oral y Evaluación de la Nutrición/Instrumento de Revalidación de preguntas de Salud Oral

¿Tiene que estar en este estudio?
Participar en el estudio es voluntario. Usted es libre de decidir no participar en este estudio o dejar el estudio en cualquier momento. También es libre de no autorizar a los investigadores y otros grupos que vean y compartan su información de salud. Si usted decide no participar en el estudio o no autorizar a los investigadores y otros grupos usar su información de salud, no habrá penalidad. En otras palabras, usted todavía puede recibir tratamientos médicos sino participa en el estudio y no le afectará su elegibilidad para cualquier plan de salud o beneficios del plan de salud o pagos a los que usted pudiera ser elegible.

¿Qué sucederá si cambia de parecer?
Usted puede decirle a los investigadores de suspender el uso de su información de salud en cualquier momento. Sin embargo, usted necesita informarlo por escrito y enviarlo a Sue E.D. Cunningham, Department of Community Dentistry, University of Texas Health Science Center at San Antonio, 7703 Floyd Curl Drive (MC 7917), San Antonio, TX 78229-3900. Si usted informa a los investigadores en suspender el uso de su información de salud, su participación en el estudio terminará y el personal del estudio dejará de obtener información de salud de usted y acerca de usted. Sin embargo, el personal del estudio continuará usando la información de salud obtenida, hasta el momento que ellos reciban su carta notificándoles su intención de terminar el estudio.

¿Puede usted preguntar para ver su PHI obtenido en este estudio?
Los reglamentos federales indican que usted puede ver su información de salud que hemos obtenido acerca de usted y usado en este estudio. Contacte al personal del estudio si necesita revisar su PHI obtenido para este estudio. Debido al tipo de investigación usted solo puede accesar su PHI cuando el estudio esté completado. En ese momento, usted tiene el derecho de ver y copiar la información médica que obtendremos acerca de usted durante el estudio, ya que esa información es mantenida por el personal del estudio y otros grupos involucrados. Esta autorización expira seis (6) años después de haberse acabado el estudio.

¿Por cuánto tiempo va a ser usado su PHI?
Al firmar este documento, usted está de acuerdo en permitirnos usar y divulgar su información de salud para propósitos del estudio en cualquier momento en el futuro. No habrá fecha de vencimiento debido a que no sabemos cuánto tiempo nos tomará acabar de hacer todos los análisis y necesitaríamos usar su información de salud por todo el tiempo que tome.

¿Qué debe hacer si tiene preguntas o necesita reportar un problema?
Si tiene preguntas ahora, siéntase libre de hacerlas. Si tiene preguntas adicionales más tarde o si desea reportar un problema médico que esté relacionado con el estudio, Sue Cunningham, M.S., R.D./L.D., C.D.E. puede ser localizado al 210-567-4589 o 210-230-2742 (bíper). Para usar el bíper, usted necesita tener un teléfono con botones (touch tone). Marque el número del bíper, como lo haría con cualquier número de teléfono. Cuando usted escuche tres sonidos cortos, marque el número al cual el doctor le puede llamar. Presione el botón de #, cuelgue y espere a que el doctor lo llame. Si el/ella no está disponible, Moshtagh Farokhi, D.D.S., M.P.H., F.A.G.D. puede ser localizado al 210-567-3194 or 210-567-3200.

El comité de The University of Texas Health Science Center que revisa las investigaciones en sujetos humanos (Institutional Review Board) podrá contestar cualquiera pregunta sobre sus derechos como sujeto en la investigación (210-567-2351).

CONSENTIMIENTO DEL SUJETO PARA PARTICIPAR EN EL ESTUDIO DE INVESTIGACIÓN
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Se le dará una copia firmada de este documento para que guarde.

FIRME ESTE DOCUMENTO SOLAMENTE SI TODO LO SIGUIENTE ESTÁ CORRECTO:

- Usted ha decidido voluntariamente participar en este estudio de investigación.
- Usted autoriza la obtención, usos y compartir su información protegida de salud como está descrito en este documento.
- Usted ha leído la información antes mencionada.
- Sus preguntas han sido contestadas a su satisfacción y usted cree que entiende toda la información dada sobre el estudio y sobre el uso y divulgación de su información de salud.[18]

_____ _____
Firma del Sujeto Fecha y Hora Firmada por el Sujeto

_____
Nombre del Sujeto en Letra de Molde

_____ _____
Firma del Testigo Nombre del Testigo en Letra de Molde

_____ _____
Firma de la Persona que está Obteniendo el Consentimiento Nombre y Título de la Persona que está Obteniendo el Consentimiento en Letra de Molde

Appendix B1

INTRODUCTION

Thank you for agreeing to take part in this study by the CHRISTUS Santa Rosa Health Care W.I.C. Program, the University of Texas Health Science Center at San Antonio Dental School, and the University of Texas Health Science Center at Houston School of Public Health. We want to find out how to best prevent dental cavities or tooth decay in newborn to 3 years old babies and young children in San Antonio. We will do this by asking some WIC participants, like you, some questions about your dental health and nutrition understanding, beliefs, attitudes, social support, and self-confidence. All the information given in this questionnaire will be treated confidentially. We are not going to judge you or your child by the answers you give us. We only ask that all your answers be as truthful as you can make them. We greatly appreciate your time and thank you for helping us learn more about how to prevent dental cavities in the children of San Antonio.

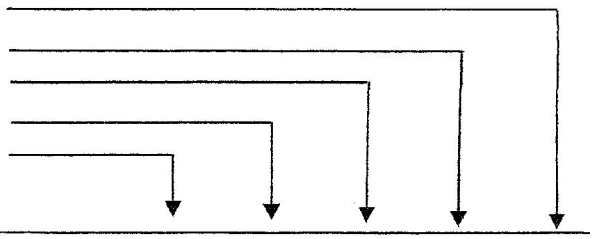
QUESTIONNAIRE

Mom: _____

1. What is your child's name? _____
2. When was he/she born? (MM/DD/YY): _____/_____/_____
3. Is (name of child) a boy or girl?: Male → ☐ 1 Female → ☐ 2
4. Is (name of child) your first child, second child, etc.? → ☐ 1
5. What was (name of child)'s birth weight?_____lbs _____oz
   ☐☐.☐☐ 1
6. Was (name of baby/child) full-term?
   Yes → ☐ 1 No → ☐ 2
7. (If #6 *no*, weeks early)_____ N/A → ☐ 1 GA → ☐☐.☐ 2
8. Who usually looks after (name of child) during the day? (*one answer*)
   a. Mother at home → ☐ 1
   b. Father at home → ☐ 2
   c. Other relative (specify) → ☐ 3
   d. Friend/neighbor → ☐ 4
   e. Paid babysitter or "Day Care" → ☐ 5
   f. Other (specify) → ☐ 6

Please tell me if you agree or disagree about the following statements by rating them from I strongly agree, I agree, I neither agree nor disagree, I disagree or I strongly disagree:

(5) Strongly agree
(4) Agree
(3) Neither agree nor disagree
(2) Disagree
(1) Strongly disagree

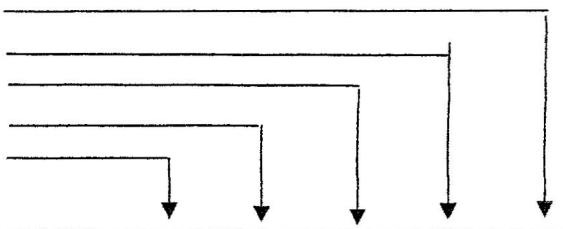


9. For at least one year, babies should be fed breast milk or baby formula, as the most important source of food or nutrition.....	(1)	(2)	(3)	(4)	(5)
10. A baby can start to learn how to drink from a cup at around 6 months of age.....	(1)	(2)	(3)	(4)	(5)
11. Sports drinks like Gatorade™ are alright to put in a baby's bottle	(1)	(2)	(3)	(4)	(5)
12. If a baby is fed sugary foods at every or almost every meal or snack, the baby will get dental cavities	(1)	(2)	(3)	(4)	(5)
13. Wiping a baby's gums or brushing his or her teeth prevents dental cavities.....	(1)	(2)	(3)	(4)	(5)
14. Generally children should have their first visit to the dentist to check their teeth by or around their 1st birthday.....	(1)	(2)	(3)	(4)	(5)
15. Fluoride is added to the water supply of some cities to prevent dental cavities.....	(1)	(2)	(3)	(4)	(5)
16. Children who are not breastfed are as healthy as those who are.	(1)	(2)	(3)	(4)	(5)
17. What you eat does not affect your teeth.....	(1)	(2)	(3)	(4)	(5)
18. It is important to brush your teeth at least two times daily.....	(1)	(2)	(3)	(4)	(5)
19. I know which foods are the best ones to feed my child to keep his/her teeth healthy.....	(1)	(2)	(3)	(4)	(5)
20. I would be concerned if my child had cavities in the "baby teeth".....	(1)	(2)	(3)	(4)	(5)
21. Dental cavities are a normal part of growing up.....	(1)	(2)	(3)	(4)	(5)
22. I have someone to go to if I need care and love....	(1)	(2)	(3)	(4)	(5)

ENGLISH HEALTHY BABY TEETH 2 **ID#_____**

MOTHER'S QUESTIONNAIRE

(5) Strongly agree
(4) Agree
(3) Neither agree nor disagree
(2) Disagree
(1) Strongly disagree



23. It's OK for my child and me to share the same fork or spoon when eating.....	(1)	(2)	(3)	(4)	(5)
24. I am confident making decisions on my own about dental care.....	(1)	(2)	(3)	(4)	(5)
25. It's OK to put a baby to bed with a bottle.....	(1)	(2)	(3)	(4)	(5)
26. Dental care is very expensive and outside my budgeted expenses.....	(1)	(2)	(3)	(4)	(5)
27. I would be concerned if my child lost "baby teeth because of cavities.....	(1)	(2)	(3)	(4)	(5)
28. Dental cavities are only caused by candy.....	(1)	(2)	(3)	(4)	(5)
29. I have enough money to purchase toothpaste and toothbrushes for my child(ren).....	(1)	(2)	(3)	(4)	(5)
30. Honey on a pacifier is OK for a baby.....	(1)	(2)	(3)	(4)	(5)
31. There are resources or services available to me in my community that I can use to keep my child's teeth healthy.....	(1)	(2)	(3)	(4)	(5)
32. A fat baby is a healthy baby	(1)	(2)	(3)	(4)	(5)
33. I have adequate transportation to get my child to the dentist	(1)	(2)	(3)	(4)	(5)
34. It is normal for a baby to drink from a baby bottle after the first birthday.....	(1)	(2)	(3)	(4)	(5)
35. I know where to go to get advice or information on how to take care of my child's teeth.....	(1)	(2)	(3)	(4)	(5)
36. I have someone I can go to talk to who can tell me if I'm doing the right things to keep my child's teeth healthy.....	(1)	(2)	(3)	(4)	(5)
37. I know how to teach my child how to brush his or her teeth.....	(1)	(2)	(3)	(4)	(5)
38. I am comfortable speaking in English with a dentist or other dental care professional.....	(1)	(2)	(3)	(4)	(5)

ENGLISH HEALTHY BABY TEETH 2 **ID#_____**
MOTHER'S QUESTIONNAIRE

Because no two families are alike, we would like ask you for some information about you and your family. This information will allow us to group similar families together to determine how similar they are in their thoughts, beliefs and ideas about dental care for their children.

39. How old are you? ——→ ☐☐ 1

40. How old were you when your first child was born? ——→ ☐☐ 1

41. Approximately when did you first visit the dentist?

a. Before you started elementary (primary) school ☐ 1
b. During elementary (primary) school ☐ 2
c. During Jr. High/Sr High school ☐ 3
d. As an adult ☐ 4
e. Other ☐ 5

42. In the past year, how many times have you visited the dentist? ——→ ☐☐ 1

43. Are you currently employed outside the home? No→ ☐ 1 Yes → ☐ 2

44. If yes, what do you do? What is your occupation? _____

——→ ☐☐ 1

Not applicable ——→ ☐ 2

45. If yes, does your employer provide you and your children dental benefits?
N/A→ ☐ 1 No → ☐ 2 Yes → ☐ 3

46. How tall are you? _____feet _____inches

Approximately how much do you weigh?_____pounds

BMI → ☐☐.☐

BMI category L 1 WA 2 OW 3 OBI 4 OBII 5 OBIII 6

47. Did (name of child) have any problems at birth, such as "fetal complications" or "traumatic birth"? No → ☐ 1 Yes → ☐ 2

48. If so, explain:_____

——→ N/A → ☐ 1 ☐☐ 2

49. Does your child have any type of ongoing medical condition for which he/she currently visits a doctor? No → ☐ 1 Yes → ☐ 2

50. Please list any medical conditions that (name of child) has: N/A → ☐ 1

_____ → ☐☐ 2

51. (If any are listed) Does this condition (or conditions) affect (name of child)'s ability to eat?

N/A → ☐ 1 No → ☐ 2 Yes → ☐ 3

If yes, how? _____ ☐ 4

52. Is your child on any medication? No → ☐ 1 Yes → ☐ 2

If yes, list _____ → ☐☐ 3

53. Which best describes your living arrangements?

a. I am married or I live with a partner → ☐ 1

b. I live with adult(s) other than a spouse or partner → ☐ 2

What is their relationship to you? _____ → ☐☐ 3

c. I live with no other adult(s) → ☐ 4

d. Other (specify) _____ → ☐ 5

54. How many people are in your household, in other words, how many people do you live with, including you and your child(ren)?

→ ☐☐ 1

55. How many children under 18 years of age, if any, are in your household?

→ ☐☐ 1

56. Which was the highest grade you completed at school? [write in the country if it was not in the US]

_____ → ☐☐ 1

57. Which was the highest grade (name of child)'s father completed at school? [write in the country if it was not in the US]

_____ → ☐☐ 1

Don't know → ☐ 2

The questionnaire is now completed! Thank you for your time and for helping the children of San Antonio!

ID#_____

FOR THE QUESTIONNAIRE ADMINISTRATOR:

[DO NOT READ THESE QUESTIONS TO THE RESPONDENT]

58. Zip code of the home address ——→ [7] [8] [2] [ ] [ ]

59. Do you have any comments regarding the administration of this questionnaire?

a. No ——→ [ ] 1

b. Yes ——→ [ ] 2

Comments _____

_____

_____

_____

ESPAÑOL DIENTES SALUDABLES DEL BEBÉ 2 **ID#_____**
CUESTIONARIO PARA LA MADRE

Apéndice B2

INTRODUCCIÓN

Gracias por estar de acuerdo en participar en este estudio conducido por CHRISTUS Santa Rosa Health Care W.I.C. Program, y la University of Texas Health Science Center at San Antonio Dental School y la University of Texas Health Science Center at Houston School of Public Health. Nosotros queremos investigar cuál es la mejor manera de prevenir caries dental en bebés (infantes) menores de tres años y los niños jóvenes de San Antonio. Nosotros haremos esto preguntándoles a los participantes de WIC, como usted, algunas preguntas sobre el entendimiento de su salud dental y de nutrición, creencias, actitudes, apoyo social, y su autoestima. Toda la información dada en este cuestionario será tratada confidencialmente. Ni usted ni su niño serán juzgados por las respuestas que dio. Nosotros solo queremos que sus respuestas sean lo más ciertas posible. Nosotros le agradecemos muchísimo su tiempo y de nuevo le damos las gracias por ayudarnos a aprender más acerca de cómo prevenir las caries dentales en los niños de San Antonio.

CUESTIONARIO

Mom: _____

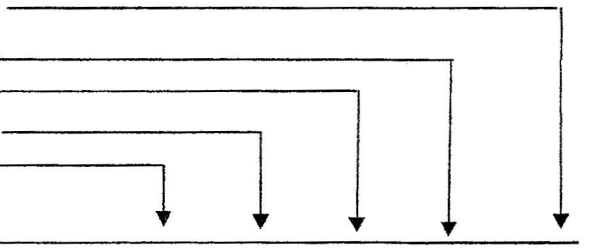
1. Nombre del bebé (infante) / niño/a:_____
2. Fecha de nacimiento del bebé /niño/a (MM/DD/YY): _____/_____/_____
3. Género del bebé /niño/a: Masculino → ☐ 1 Femenino → ☐ 2
4. ¿Es (el nombre del niño/a su primer hijo, segundo, etc.? → ☐ 1
5. ¿Cuanto peso el bebe al nacer? _____lbs _____oz
   ☐☐.☐☐ 1
6. ¿Nacio el nino/a de termino completo? Si → ☐ 1 No → ☐ 2
7. (¿Si el #6 es *no*, cuantas semanas de adelanto?) _____ N/A → ☐ 1 GA → ☐☐.☐ 2
8. ¿Usualmente quién cuida al niño/a (nombre del niño/a) durante el día ?
   (*conteste una)*
   a. La madre en la casa → ☐ 1
   b. El padre en la casa → ☐ 2
   c. Otro pariente (especifique) → ☐ 3
   d. Amigo(a)/Vecino(a) → ☐ 4
   e. Persona contratada o "Guardería" (Jardín Infantil) → ☐ 5
   f. Otro(a) (especifique) → ☐ 6

ESPAÑOL DIENTES SALUDABLES DEL BEBÉ 2 **ID#_____**

CUESTIONARIO PARA LA MADRE

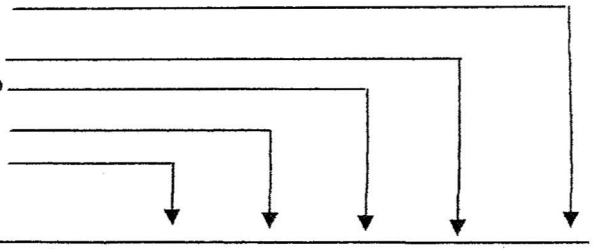
Por favor dígame si usted está de acuerdo o en desacuerdo con las siguientes frases clasificándolas de la siguiente manera: Estoy de acuerdo, No estoy ni de acuerdo ni en desacuerdo, Estoy en desacuerdo, Estoy muy en desacuerdo.

(5) Estoy muy en acuerdo
(4) Estoy en acuerdo
(3) No estoy ni de acuerdo ni en desacuerdo
(2) Estoy en desacuerdo
(1) Estoy muy en desacuerdo



9. Por lo menos durante un año, el bebé debe recibir leche materna o fórmula, como la fuente más importante de alimento o nutrición.....	(1)	(2)	(3)	(4)	(5)
10. El bebé puede aprender a tomar del vaso alrededor de los 6 meses de edad.	(1)	(2)	(3)	(4)	(5)
11. Refrescos o aguas como Gatorade™ está bien para ponerla en el biberón.....	(1)	(2)	(3)	(4)	(5)
12. Si al niño/a se le alimenta con comida que contienen azúcar en cada o en casi todas las comidas o botanitas, el niño/a puede desarrollar caries.....	(1)	(2)	(3)	(4)	(5)
13. Limpiarle las encías o cepillarle los dientes al bebé ayuda a prevenir caries.....	(1)	(2)	(3)	(4)	(5)
14. Usualmente los niños deben tener su primera visita al dentista alrededor del primer año de edad...	(1)	(2)	(3)	(4)	(5)
15. Algunas ciudades agregan fluoruro a la fuente de agua para prevenir las caries dentales.....	(1)	(2)	(3)	(4)	(5)
16. Los niños que no son amamantados son tan saludables como los que han sido amamantados.....	(1)	(2)	(3)	(4)	(5)
17. Lo que usted coma no afecta los dientes.....	(1)	(2)	(3)	(4)	(5)
18. Es importante cepillarse los dientes por lo menos dos veces al día	(1)	(2)	(3)	(4)	(5)
19. Yo sé cuales comidas son los mejores para alimentar a mi niño(a) para mantener sus dientes saludables.....(1)		(2)	(3)	(4)	(5)
20. Yo estaría preocupada si mi niño/a tiene caries en los "dientes de leche o dientes de bebé".....	(1)	(2)	(3)	(4)	(5)
21. Las caries dentales son parte normal del crecimiento.....	(1)	(2)	(3)	(4)	(5)
22. Si siente que tiene a alguien a quien usted puede ir si necesita cuidado y cariño.....	(1)	(2)	(3)	(4)	(5)

(5) Estoy muy en acuerdo
(4) Estoy en acuerdo
(3) No estoy ni de acuerdo ni en desacuerdo
(2) Estoy en desacuerdo
(1) Estoy muy en desacuerdo



23. Cuando estamos comiendo, está bien que mí niño/a y yo compartamos el mismo tenedor o cuchara.....	(1)	(2)	(3)	(4)	(5)
24. Yo mee siento segura haciendo decisiones por si misma acerca del tratamiento dental .....(1)		(2)	(3)	(4)	(5)
25. Está bien que su niño/a se acueste a dormir con el biberón dentro de la boca.....	(1)	(2)	(3)	(4)	(5)
26. El tratamiento dental cuesta mucho dinero y está fuera de mi presupuesto.....	(1)	(2)	(3)	(4)	(5)
27. Yo estaría preocupada si mi niño/a pierde sus "dientes de leche o dientes de bebé" debido a las caries...	(1)	(2)	(3)	(4)	(5)
28. Las caries dentales es solamente causada por los dulces.....	(1)	(2)	(3)	(4)	(5)
29. Yo tengo suficiente dinero para comprar la pasta y el cepillo de dientes para mis hijo(s).....	(1)	(2)	(3)	(4)	(5)
30. La miel de abeja en el chupón (mamón) está bien para el bebé.....	(1)	(2)	(3)	(4)	(5)
31. En mi comunidad hay recursos y servicios disponibles para mi que yo puedo usar para mantener los dientes de mi hijo(a) saludables.....	(1)	(2)	(3)	(4)	(5)
32. Un niño gordo es un niño saludable.....	(1)	(2)	(3)	(4)	(5)
33. Yo tengo transporte adecuado para llevar a mi hijo(a) al dentista.....	(1)	(2)	(3)	(4)	(5)
34. Es normal que el bebé tome de la tetera o use el chupón después de cumplir el primer año.....	(1)	(2)	(3)	(4)	(5)
35. Yo se a dónde ir para obtener consejos o información de cómo cuidar los dientes de mi niño/a?.....	(1)	(2)	(3)	(4)	(5)
36. Yo tengo a alguien con quien hablar y que me puede decir si estoy haciendo lo correcto para mantener los dientes de mi niño/a saludables.....	(1)	(2)	(3)	(4)	(5)
37. Yo sé como enseñarle a mi hijo(a) a cepillarse sus dientes.....	(1)	(2)	(3)	(4)	(5)
38. Me siento cómoda (confortable) hablando en inglés con el dentista u otro profesional de salud oral.....	(1)	(2)	(3)	(4)	(5)

ESPAÑOL DIENTES SALUDABLES DEL BEBÉ 2 **ID#_____**

CUESTIONARIO PARA LA MADRE

Puesto que no hay dos familias que se parezcan, a nosotros nos gustaría tener alguna información acerca de usted y su familia. Esta información nos ayudará a agrupar las familias que tienen símil arridad en la forma de pensar, creencias, e ideas acerca del tratamiento dental para sus niños.

39. ¿Cuantos años tiene? _____→ ☐☐ 1

40. ¿Que edad tenía usted cuando nació su primer niño/a? ☐☐ 1

41. ¿Aproximadamente cuándo usted hizo su primera visita al dentista?

a. Antes de empezar su escuela elemental (primaria) ☐ 1

b. Durante su escuela elemental (primaria) ☐ 2

c. Durante la escuela secundaria (prepa, High School) ☐ 3

d. Ya siendo adulto ☐ 4

e. Otro ☐ 5

42. ¿En el pasado año, cuantas veces ha visitado al dentista? →☐☐ 1

43. ¿En el presente está usted trabajando fuera de la casa? No→ ☐ 1 Si → ☐ 2

44. ¿Si es así, qué hace? ¿Cuála es su ocupación? _____

→ ☐☐ 1

N/A → ☐ 2

45. ¿Si es así, su empleador le provee a usted y a su niño beneficios (seguro) dentales?

N/A → ☐ 1 No ☐ 2 Si → ☐ 3

46. ¿Cuál es su altura? (_____pies _____pulgadas)
(_____metros/centímetros)

¿Aproximadamente cual su peso?_____(libras / kilos)

BMI → ☐☐.☐

BMI category: L 1 | WA 2 | OW 3 | OBI 4 | OBII 5 | OBIII 6

47. ¿Tuvo su niño/a algunos problemas al nacer como "complicaciones fetales" o "nacimiento traumático"? No → ☐ Si 1 → ☐ 2

48. Si es así, explique:_____

→ N/A → ☐ 1 ☐☐ 2

49. ¿Tiene su niño(a) algún tipo de condición médica por la cual el /ella visita al doctor?

No → ☐ 1 Si → ☐ 2

50. Si es así, por favor liste cualquier condición(es) que tenga (nombre del niño(a):

_____ N/A → ☐ 1

→ ☐☐ 2

51. (Si ha mencionado alguna) ¿Esta condición (o condiciones) afecta la habilidad de su niño para comer?

N/A → ☐ 1 No → ☐ 2 Sí → ☐ 3

Si es así ,cómo ? → ☐ 4

52. Está su niño tomando alguna medicina? No → ☐ 1 Si → ☐ 2

Si es así, menciónela

→ ☐☐ 3

53. ¿Describa su mejor manera de vivir?

a. Yo soy casada o vivo con un compañero → ☐ 1

b. Yo vivo con otros adulto(s) fuera del esposo o compañero → ☐ 2

¿Qué parentesco tiene con usted? → ☐☐ 3

c. No vivo con ningún otro adulto(s) → ☐ 4

d. Otro (especifique)_____ → ☐ 5

54. ¿Cuántas personas están en su casa, en otras palabras, con cuánta gente vive usted, incluyendo usted y sus niño(s)?

→ ☐☐ 1

55. ¿Cuántos niños menores de 18 años de edad y solteros están en su casa?

→ ☐☐ 1

56. ¿Cuál fue el curso más alto que completó en la escuela? [escriba el país si no fue Estados Unidos]

→ ☐☐ 1

57. ¿Cuál fue el curso más alto que completó el padre del niño/a en la escuela? [escriba el país si no fue Estados Unidos]

→ ☐☐ 1

No sé → ☐ 2

¡El cuestionario se ha completado! ¡Gracias por su tiempo y por ayudar a los niños de San Antonio!

FOR THE QUESTIONNAIRE ADMINISTRATOR:

[DO NOT READ THESE QUESTIONS TO THE RESPONDENT]

58. Zip code of the home address → [7] [8] [2] [ ] [ ] 1

59. Do you have any comments regarding the administration of this questionnaire?

a. No → [ ] 1

b. Yes → [ ] 2

Specific comments _____

_____

_____

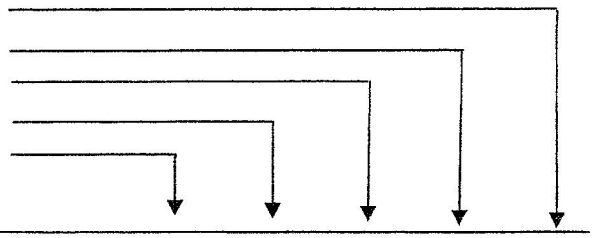
_____

APPENDIX C1

ID #___

English ARSMA-II

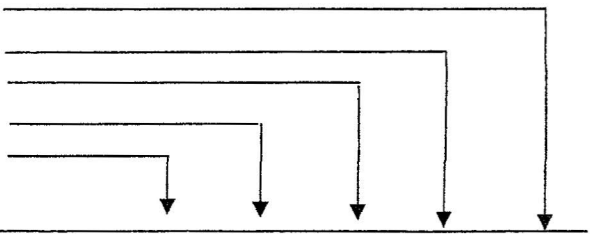
(5) Almost Always/Extremely Often
(4) Much/Very Often
(3) Moderately
(2) Very Little/Not Very Much
(1) Not At All



1. I speak Spanish.....	(1)	(2)	(3)	(4)	(5)
2. I speak English	(1)	(2)	(3)	(4)	(5)
3. I enjoy speaking Spanish.....	(1)	(2)	(3)	(4)	(5)
4. I associate with Anglos (Whites).....	(1)	(2)	(3)	(4)	(5)
5. I associate with Mexicans and/or Mexican American.....	(1)	(2)	(3)	(4)	(5)
6. I enjoy Spanish language music.....	(1)	(2)	(3)	(4)	(5)
7. I enjoy listening to English language music	(1)	(2)	(3)	(4)	(5)
8. I enjoy Spanish language TV	(1)	(2)	(3)	(4)	(5)
9. I enjoy English language TV	(1)	(2)	(3)	(4)	(5)
10. I enjoy English language movies.....	(1)	(2)	(3)	(4)	(5)
11. I enjoy Spanish language movies.....	(1)	(2)	(3)	(4)	(5)
12. I enjoy reading books in Spanish.....	(1)	(2)	(3)	(4)	(5)
13. I enjoy reading books in English.....	(1)	(2)	(3)	(4)	(5)
14. I write letters in Spanish.....	(1)	(2)	(3)	(4)	(5)
15. I write letters in English	(1)	(2)	(3)	(4)	(5)
16. My thinking is done in the English language.....	(1)	(2)	(3)	(4)	(5)

ID #____

(5) Almost Always/Extremely Often
(4) Much/Very Often
(3) Moderately
(2) Very Little/Not Very Much
(1) Not At All

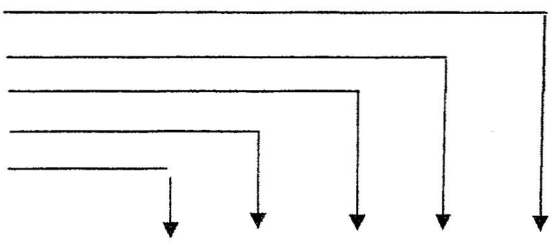


17. My thinking is done in the Spanish language.....	(1)	(2)	(3)	(4)	(5)
18. My contact with Mexico has been	(1)	(2)	(3)	(4)	(5)
19. My contact with the USA has been.....	(1)	(2)	(3)	(4)	(5)
20. My father identifies or identified himself as "Mexicano"	(1)	(2)	(3)	(4)	(5)
21. My mother identifies or identified herself as "Mexicano"	(1)	(2)	(3)	(4)	(5)
22. My friends while I was growing up were of Mexican origin	(1)	(2)	(3)	(4)	(5)
23. My friends while I was growing up were of Anglo origin	(1)	(2)	(3)	(4)	(5)
24. My family cooks Mexican foods	(1)	(2)	(3)	(4)	(5)
25. My friends now are of Anglo origin.....	(1)	(2)	(3)	(4)	(5)
26. My friends now are of Mexican origin	(1)	(2)	(3)	(4)	(5)
27. I like to identify myself as an Anglo American.....	(1)	(2)	(3)	(4)	(5)
28. I like to identify myself as Mexican American.....	(1)	(2)	(3)	(4)	(5)
29. I like to identify myself as Mexican	(1)	(2)	(3)	(4)	(5)
30. I like to identify myself as American	(1)	(2)	(3)	(4)	(5)

APÉNDICE C2

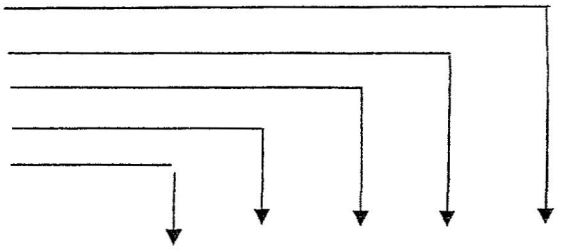
Spanish ARSMA-II **ID #** _____

(5) Muchísimo o casi todo el tiempo
(4) Mucho o muy frecuente
(3) Moderado
(2) Un poquito o a veces
(1) Nada



1. Yo hablo Español	(1)	(2)	(3)	(4)	(5)
2. Yo hablo Inglés	(1)	(2)	(3)	(4)	(5)
3. Me gusta hablar en Español	(1)	(2)	(3)	(4)	(5)
4. Me asocio con Anglos	(1)	(2)	(3)	(4)	(5)
5. Me asocio con Mexicanos y/o con Mexico-Americanos	(1)	(2)	(3)	(4)	(5)
6. Me gusta la música Mexicana (música en idioma Español)	(1)	(2)	(3)	(4)	(5)
7. Me gusta la música en idioma Inglés	(1)	(2)	(3)	(4)	(5)
8. Me gusta ver programas en la televisión que sean en Español	(1)	(2)	(3)	(4)	(5)
9. Me gusta ver programas en la televisión que sean en Inglés	(1)	(2)	(3)	(4)	(5)
10. Me gusta ver películas en Inglés	(1)	(2)	(3)	(4)	(5)
11. Me gusta ver películas en Español	(1)	(2)	(3)	(4)	(5)
12. Me gusta leer en Español	(1)	(2)	(3)	(4)	(5)
13. Me gusta leer en Inglés	(1)	(2)	(3)	(4)	(5)
14. Escribo (como cartas) en Español	(1)	(2)	(3)	(4)	(5)
15. Escribo (como cartas) en Inglés	(1)	(2)	(3)	(4)	(5)
16. Mis pensamientos ocurren en el idioma Inglés	(1)	(2)	(3)	(4)	(5)

(5) Muchísimo o casi todo el tiempo
(4) Mucho o muy frecuente
(3) Moderado
(2) Un poquito o a veces
(1) Nada



17. Mis pensamientos ocurren en el idioma Español ..... (1) (2) (3) (4) (5)

18. Mi contacto con México ha sido…..(1) (2) (3) (4) (5)

19. Mi contacto con Estados Unidos ha sido..... (1) (2) (3) (4) (5)

20. Mi padre se identifica (o se identificaba) como Mexicano…..(1) (2) (3) (4) (5)

21. Mi madre se identifica (o se identificaba) como Mexicana…..(1) (2) (3) (4) (5)

22 Mis amigos(as) de mi niñez eran de origen Mexicano…..(1) (2) (3) (4) (5)

23. Mis amigos(as) de mi niñez eran de origen AngloAmericano…..(1) (2) (3) (4) (5)

24. Mi familia cocina comidas Mexicanas…..(1) (2) (3) (4) (5)

25. Mis amigos(as) recientes son Anglo Americanos…..(1) (2) (3) (4) (5)

26. Mis amigos(as) recientes son Mexicanos…..(1) (2) (3) (4) (5)

27. Me gusta identificarme como Anglo Americano…..(1) (2) (3) (4) (5)

28. Me gusta identificarme como México-Americano…..(1) (2) (3) (4) (5)

29. Me gusta identificarme como Mexicano.....(1) (2) (3) (4) (5)

30. Me gusta identificarme como un(a) Americano(a)…..(1) (2) (3) (4) (5)

Appendix D

ORAL HEALTH SCREENING FOR 0-47 MONTHS OLDS

ID# _____

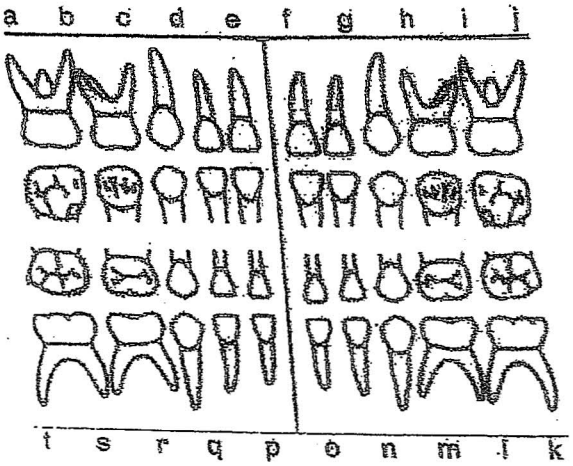
ate: _____ Patient's Name: _____ Age (Months): _____

ate of Birth: _____ Male____ Female____ Race/Ethnicity_____PMH: _____

ddress: _____ Phone: _____

lother's Name: _____ Allergies to include Latex: Y/N ____Age of 1st dental visit (Months): _____

ledicaid/CHIP: Y/N_____ Parental Permission: Y/N _____ Age of first primary tooth eruption (Months): _____



☐ No obvious dental problems
☐ Decay noted on teeth: _____
☐ Urgent Treatment Needed

1. Abrasion
2. Congenitally missing
3. Decalcification
4. Delayed eruption
5. Erupting
6. External resorption
7. Extraction necessary
8. Faulty restoration
9. Fistula tooth
10. Fluorosis
11. Fractured tooth
12. Fusion/Tooth gemination
13. Hypoplasia
14. Impaction
15. Internal resorption
16. Microdontia
17. Mobility
18. Nonvital
19. Radiolucency
20. Retained roots
21. Supernumerary tooth
22. Temporary filling
23. Traumatized tooth

Gingival Tissue

Plaque: ☐ 0 – No plaque ☐ 1 - Gingival Margin ☐ 2 – Covers less than half crown
Calculus: ☐ Yes ☐ No
How often are the child's teeth brushed? ☐ Daily ☐ Weekly ☐ Other
Who brushes their teeth ☐ Mom ☐ Child ☐ Both ☐ Dad
Drinking Water: ☐ Tap Fluoridated ☐ Non-fluoridated to include bottled water
Other Beverages consumed by the child

_____

Candy consumption: ☐ Yes ☐ No How often? ☐ Daily ☐ Weekly ☐ Other
☐ Breast-fed ☐ Months
☐ Bottle-fed ☐ Months
Behavior of the child during the exam _____

Moshtagh R. Farokhi DDS, MPH, FAGD

Existing Restorations (filled surfaces) Y/N	Active Decay Carious lesions (cavitated!)	Early Decay Carious lesions (Incipient and *or limited to* enamel)	Class 0 1 2	Sealants Y/N	ECC Y/N	S-ECC Y/N

Farokhi_Nov06

The University of Texas
Health Science Center at San Antonio
Mail Code 7917
7703 Floyd Curl Drive
San Antonio, Texas 78229-3900

Dental School
Department of Community Dentistry

(210) 567-3200
FAX: (210) 567-4587

Appendix E1

Results of Dental Examination

ID # ___

Dear Parent/Guardian:

A dental examination was provided for _____. The results are indicated below.

_____ 0. No problems are observed:
- _____ A. But several areas need to be watched by your dentist.
- _____ B. But be sure to continue regular dental care.

_____ 1. Needs dental treatment or evaluation – definite cavities are present.

_____ 2. Dental problem requires immediate attention:
- _____ A. Pain
- _____ B. Abscess (pus or infections in the mouth)
- _____ C. Severe decay

Comments:

_____

_____

_____

_____

DATE: _____ Moshtagh R. Farokhi DDS, MPH, FAGD

Farokhi/Nov 06

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7703 Floyd Curl Drive
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Appendix E2

Resultados del examen dental

ID # _____

Estimado padre o madre / tutor:

Le proveyeron un examen dental a _____. Estos son los resultados.

_____ 0. No se observen ningúnas problemas:
- _____ A. Pero ciertas areas necesitan vigilancia por su dentista.
- _____ B. Pero asegúrese de continuar la atención dental con regularidad.

_____ 1. Necesita tratamiento o evaluación dental ---Hay caries presente

_____ 2. El problema dental necesita atención inmediata:
- _____ A. Dolor
- _____ B. Absceso (pus o infección dentro la boca)
- _____ C. Caries severa

Comentarios:

_____

_____

_____

_____

FECHA: _____ Moshtagh R. Farokhi DDS, MPH,FAGD

Farokhi/Nov 06

Appendix F1

Appendix G

OFFICIAL MAIL-IN CERTIFICATE (OFFER VALID 6/14/06-6/30/07)

"Save the World from Cavities™", Colgate® is rewarding children who visit the dentist. Here's how:

(1) Complete the official "Save the World from Cavities™" form as well as provide proof of a dental visit (office stamp or office business card).

(2) BUY ONE COLGATE® TOOTHPASTE (any size except trial size) OR COLGATE® TOOTHBRUSH BETWEEN 6/14/06 and 6/30/07.

(3) MAIL: This completed form and proof of purchase (original dated cash register receipt with price circled plus UPC).

(4) RECEIVE: Colgate® Kids Powered Toothbrush by mail.

TERMS: Limit one Colgate® Kids Powered Toothbrush per name, address, or organization. Products purchased before or after program dates are not eligible for this offer. Please allow 10-12 weeks for delivery. Offer void if correct proof of purchase, original dated cash register receipt, this official form (which may not be reproduced) and complete name, address and zip code are not included. Special offer requests must supply either street or rural address (no PO Boxes accepted). Offer rights are not assignable or transferable and void where prohibited. Offer good only in the USA. **Offer expires 6/30/07.**

DENTAL OFFICE STAMP

PLEASE SEND MY FREE COLGATE® Kids Powered Toothbrush prize to:
(PLEASE PRINT)

NAME: _____

ADDRESS: _____ APT: _____

CITY: _____ ST: _____ ZIP: _____

(5) SEND TO: Colgate® "Save the World from Cavities™" Offer
P.O. BOX 49171
Strongsville, OH 44149- 0171

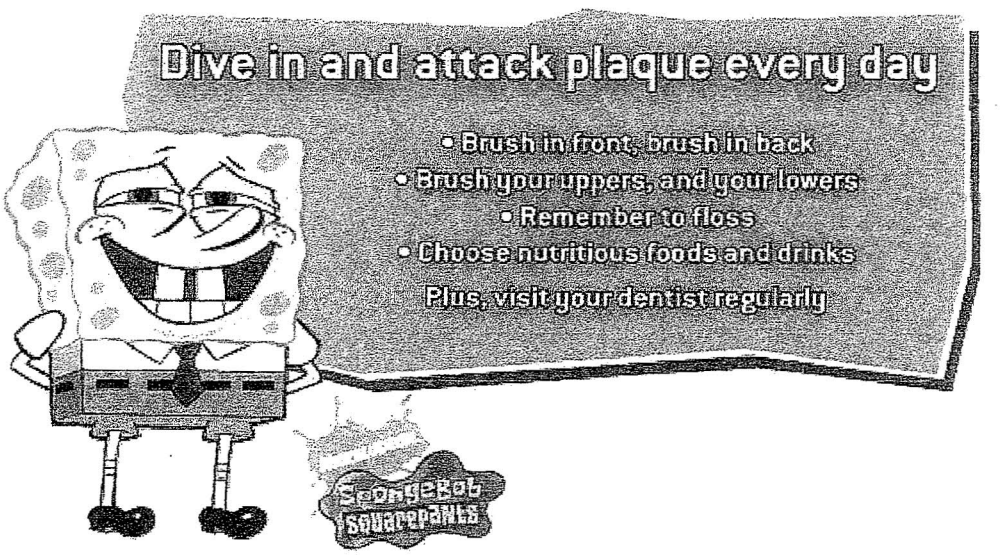
CUT HERE AND KEEP THIS RECORD

I sent for my free Colgate® kids coupon on / / . (Note: Do not mail this form to the address below. To do so will only delay your order.) If after twelve weeks you do not receive your toothbrush, please write to Colgate-Palmolive Company, Consumer Affairs, Colgate® "Save the World from Cavities™" Offer #49171, 300 Park Avenue, New York, NY 10022. Thank you for participating in our offer.

SAVE THE WORLD FROM CAVITIES

Congratulations on your checkup!

To say thanks for helping "Save the World from Cavities,"™ Colgate® would like to send you a free Colgate® SpongeBob™ Kids Powered Toothbrush. Simply complete this "Save the World from Cavities™" form, provide proof of dental visit (office stamp or business card), plus proof of purchase (original dated cash register receipt with price circled plus UPC) of Colgate® toothpaste or Colgate® toothbrush.



Appendix H

Dental Care Services For Children In San Antonio & Surrounding Areas

San Antonio Metropolitan Health District Public Health Dental Clinics:

Eastside Public Health Branch/Dental Clinic
210 N. Rio Grande
San Antonio, Texas 78202
Phone: 475-9557
Ages 0-21 only
Sliding scale fees, CHIP and Medicaid

Kenwood Public Health Clinic/Dental Clinic
302 Dora St.
San Antonio, Texas 78212
Phone: 731-9968
Ages 1-21 years olds only
Full payment, CHIP and Medicaid

Southwest Public Health Branch/Dental Clinic
9011 Poteet Jourdanton Freeway
San Antonio, Texas 78224
Phone: 924-9035
Ages 0-21 year olds only
Sliding scale fees, CHIP and Medicaid

Ricardo Salinas Clinic
630 S. General McMullen
San Antonio, Texas 78237
Phone: 436-0098 (Dental)
Phone: 433-0491 (WIC)
Ages 1-13 year olds only

Alamo Area:

Dr. Frank Bryant Clinic
3066 East Commerce
San Antonio, Texas 78220
Phone: 233-7096
Ages 2-13 years old and adults
Sliding scale fees, CHIP and Medicaid

South Park Medical Care Center, Dental Clinic
910 Wagner
San Antonio, Texas 78211
Phone: 924-7344
Ages 1-21 year olds
Sliding scale fees

TRAIL BLAZERS IN DENTAL EDUCATION
UTHSCSA
DENTAL SCHOOL
35 years
CELEBRATING A GENERATION OF SMILES

University of Texas Health Science Center at San Antonio
7703 Floyd Curl Drive
San Antonio, Texas 78229
Dental Screening (Adult's dentistry)
Phone: 567-3222
Dental Hygiene (Cleaning & Prevention)
Phone: 567-1706
Advanced General Dentistry Clinic
Phone: 567-3270
Pediatric Clinic (Children's dentistry)
Phone: 567-6931
All ages
Full payment, CHIP and Medicaid

CHRISTUS SANTA ROSA Health Care

Children's Ambulatory Care Center Dental Clinic
333 N Santa Rosa Ave
San Antonio, Texas 78207-3108
Phone: 704-2547
Ages 1-13 years old only
Payment plans are arranged for the full fees, CHIP and Medicaid
Over the age 13 children must be in the Santa Rosa hospital and sick

CHRISTUS SANTA ROSA Health Care

Children's Hospital
Dental Center for Children and Families
333 North Santa Rosa Street
3rd Floor Suite 3601
San Antonio, Texas 78207
Tel: 702-2206
Full payment, CHIP and Medicaid

Appendix I

ORAL HEALTH SCREENING FOR 0-47 MONTHS OLDS

ID# ___ ID#_

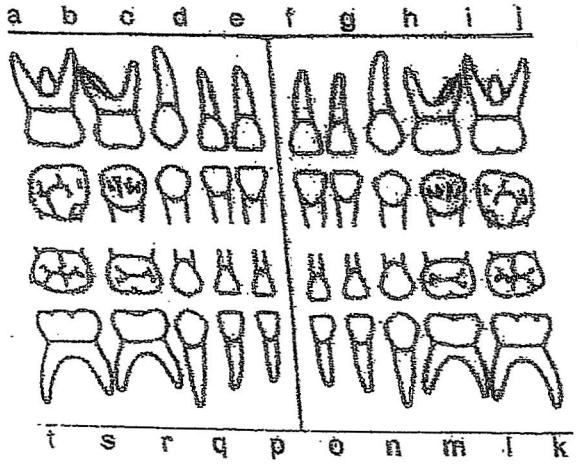
ate: ____F01a_____Patient's Name: ___ F01b _____ Age: __ F01c (months) __

ate of Birth: __ F02a ___ Male_ F02b=1 _ Female_ F02b=2_ Race/Ethnicity__ F02c___PMH: ___ F02d_____

ddress: ___ F03a (zip code) _____ Phone: ___ F03b_____

other's Name: __ F04a __ Allergies to include Latex: Y/N _ F04b (Y=1/N=2) _Age of first dental visit: __ F04c (mos) _

edicaid/CHIP: Y/N__ F05a (None=0/Medicaid=1/CHIP=2/Other=3) ____
Parental Permission: Y/N __ F05b (Y=1/N=2) ___ Age of first primary tooth eruption: __ F05c (mos) __



F06=number of non-missing teeth
(Based on chart at left)

☐ No obvious dental problems F06a (Y=1/N=2)
☐ Decay noted on teeth: _____XXX_____ F06b (Y=1/N=2)
☐ Urgent Treatment Needed F06c (Y=1/N=2)

Gingival Tissue

F07 Plaque: ☐ 0 – No plaque ☐ 1 - Gingival Margin ☐ 2 – Covers less than half crown
F08 Calculus: ☐ Yes (=1) ☐ No (=2)
F09 How often are the child's teeth brushed? ☐ Daily (Once=1/More=2) ☐Weekly (=3) ☐Other (=4)
F10 Who brushes their teeth ☐Mom (=1) ☐Child (=2) ☐Both (=3) ☐ Dad (=4)
F11 Drinking Water: ☐Tap Fluoridated (=1) ☐Non-fluoridated to include bottled water (=2)
Other Beverages consumed by the child _____ F12 (list all) _____ _____

F13 Candy consumption: ☐Yes (=1) ☐No (=2)
F13a How often? ☐Daily (=1) ☐Weekly (=2) ☐Other (=3)
F14 ☐Breast-fed (Y=1/N=2) ☐ Months F14a=# of months F15 ☐Bottle-fed (Y=1/N=2) ☐ Months
F15a=# of months
Behavior of the child during the exam ____ F16 _____

Existing Restorations (filled surfaces) Y/N	Active Decay Carious lesions (cavitatedl) Y/N	Early Decay Carious lesions (Incipient and or limited to enamel) Y/N	Class 0 1 2	ECC Y/N	S-ECC Y/N	Sealants Y/N

F17 (Y=1/N=2)
F17a = # of surfaces
F17b = # of teeth
F17c = details
	F18 (Y=1/N=2)
	F18a = # of surfaces
	F18b = # of teeth
	F18c = details
		F19 (Y=1/N=2)
		F19a = # surfaces
		F19b = # of teeth
		F19c = details
			F20	F21
				Y=1
				N=2
					F22
					Y=1
					N=2
						F23 Y=1 N=2
						F23a= # of surfaces
						F23b = # of teeth
						F23c = details