



# Factors influencing pre-school children's attendance to public health services in Acapulco, Guerrero, Mexico

## *Factores que influyen en la asistencia de los preescolares al servicio dental público en Acapulco, Guerrero, México*

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### ABSTRACT

**Aim:** The present articles purports the aim of identifying factors influencing pre-school children's attendance to the services of two public dental modules in the city of Acapulco, Guerrero, as well as identifying opportunity areas in order to improve dental care. **Materials and methods:** The present study was of a cross-section and exploratory nature. It was conducted on four pre-grade schools. A self-administered questionnaire was applied. Informers for the aforementioned questionnaire were the children's parents or tutors. Result variable was attendance of pre-school children to public dental services. **Results:** Data from 336 pre-school children were collected. One out of four pre-school children had attended dental services of the health center in the last 12 months. Lack of funds was the main reason mentioned for not bringing uninsured children to dental services. The facts of attending the same school during the former school year as well as parents having received treatment at the dental module, were influencing factors in the attendance of these pre-school children to the dental services. **Conclusions:** Users' previous contact with dental services in the school or in a dental office were factors which increased the likelihood of dental services use of preschool children at the health centers.

**Key words:** Dental health, pre-school children, risk factors.

**Palabras clave:** Salud dental, preescolares, factores de riesgo.

### RESUMEN

**Objetivo:** Identificar los factores que influyen en la asistencia de los preescolares al servicio de dos módulos dentales públicos en Acapulco, Guerrero, e identificar las áreas de oportunidades para mejorar la atención dental. **Material y métodos:** Estudio transversal exploratorio en los alumnos de cuatro escuelas de nivel preescolar. Se aplicó un cuestionario autoadministrado, los informantes fueron los padres o tutores de los preescolares. La variable resultado fue la asistencia de los preescolares a los servicios dentales públicos. **Resultados:** Se obtuvieron datos de 336 alumnos de nivel preescolar. Uno de cada cuatro preescolares asistió a los servicios dentales del centro de salud en los últimos 12 meses. La falta de dinero fue la principal razón reportada para no llevar a los escolares sin seguridad social al servicio dental. La asistencia a la misma escuela el ciclo escolar anterior y que los padres se hayan atendido en el módulo dental estuvieron asociados al hecho de llevar a los preescolares al servicio dental. **Conclusiones:** El contacto previo de los usuarios con los servicios dentales, en la escuela o en la atención curativa, son factores que incrementan la probabilidad de uso de los servicios dentales de los escolares en los centros de salud.

### INTRODUCTION

The Mexican Ministry of Health (SSA: Secretaría de Salubridad y Asistencia) has outlined three intervention components for the treatment and prevention of dental diseases: oral health of pre-school and school-age children, fluoridation of common-use salt, and an assistive healing program. Two out of the three components take place at the Ministry of Health's operative units. The first component is eminently preventive and related to health education. It is estimated that 95% of children aged 3 to 14 years are afflicted by caries, and when reaching 6 or 7 years of age these children suffer from caries in permanent teeth.<sup>1</sup> In spite of these high numbers of oral diseases, preventive use of dental services was

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**Section 4:** Oral hygiene habits of parents and guardians: Research was conducted on the importance given to oral health, oral hygiene information, participation in oral hygiene conferences, institution responsible for the conference, use of toothbrush, dental floss and oral rinse.

**Section 5:** Use of dental services by parents or guardians: information was collected on knowledge of dental care schedules at the health center, most convenient time for the user, knowledge of dental services costs, attendance to the dental services of the health center during the last year, reasons for non-attendance, perception of waiting time, length of trip and cost to arrive to the health center, perception of received care as well as suggestions to improve dental services at the Health Center.

**Section 6:** Family information: the following were collected: data of participant, level of education of parents and guardians, number of family members, self owned home and approximate monthly income of the family. Variable under study was attendance to dental services in the last twelve months. Operative definition of dental service attendance were the cases where the parent or guardian informed of having taken his child to dental service care in the last twelve months.

Answers provided with respect to perception of the importance of oral health were recorded in a 0 to 10 scale, the lowest numerical value corresponded to the lesser importance. Scale of response to care given at the health center included five categories: very good, good, average, bad and very bad.

Reported monthly income was used to ascertain the families' socio-economic level. Families who reported monthly income which was below the 25 percentile of the sample's income distribution were considered as having the lower financial income. Data were captured with the *Epi-Data* statistical package. Data analysis was conducted with CIET map statistical package.<sup>11</sup> Simple frequencies of studied variables were performed, variable associations of variables which influence the non-assistance to dental health services were identified. Association estimate, 95% confidence interval and confounders evaluation as well as effect modifiers were performed according to Mantel-Haenszel<sup>12</sup> procedure. Assessment of variables' independent effect was estimated through adjusted odds ratios (AOR) according to conventional logistic regression models. The beginning of the model was saturated with significant association variables, which were eliminated one by one using the criterion of statistical significance. Only factors which exhibited

a 95% confidence level were considered. Participants were aware of and in agreement with the use given to the information they provided. The study was approved by the Research Local Committee of the 07 Sanitary Jurisdiction, Acapulco's Health Ministry, State of Guerrero.

## RESULTS

### Socio-demographic data

Information was obtained from 336 pre-school children. 53% (n = 179) belonged to the Santa Cruz neighborhood, and 47% (n = 157) belonged to La Garita. 9% (n = 29) belonged to the first year of pre-school, 41% (n = 140) to the second year, and 50% (n = 167) to the third year. Gender distribution was 47% (n = 156) female and the rest male (n = 176). Gender information or age of the pre-school child was not reported in four cases. 29% (n = 96) of pre-school children were under five years of age, 41% (n = 135) were five years old, and 30% (n = 101) were six years old. 25% (n = 85) of the children were only children, and 38% (n = 129) were first-born. 49% (n = 167) of all children had attended the same school during the previous school year.

In 63% of all cases, both parents were responsible for their child, (n = 211), in 31% of all cases, the mother was responsible (n = 103), in 4% (n = 14) the father was responsible, in 2% of cases the legal guardian or other person was responsible (n = 8) of the children. Mostly, the mother was the person charge of the child (47%, n = 158), followed by both parents (30%, n = 101), the grandmother assumed the third place (17%, n = 57), and finally 6% (n = 20) was taken by other relatives caring for the child.

### General family data

The mother answered the survey in 78% of cases (n = 261), the father in 12% (n = 40), another person in 6% (n = 19) and the legal guardian in 5% of cases (n = 16). The mother had never attended school in two cases, had primary education in 13% of all cases (n = 44), secondary education in 27% of cases (n = 92), and high school or over in 59% (n = 197). One interviewee did not provide answers. Fathers' schooling was nil in six cases, primary education in 11% of cases (n = 36), secondary education in 23% of cases (n = 78) and high school or over in 56% of cases (n = 189). In 27 surveys no answer was provided for this question. Average members per family was 4.5 (rank 3 to 13 individuals). Almost half of the interviewees, 49%

12 months. List of factors, unadjusted odds ratios, and confidence limits are shown in *table I*.

Out of all factors included in the saturated logistic regression model, only two showed independent association to use of dental services by the children in the last 12 months. The greater association (adjusted odds ratio 10.48) was found in pre-school children whose parents had attended dental care services at the health center. The other factor was to have attended the same school during the previous school year (adjusted odd ratio 2.40). *Table II* shows the final model of associated factors, according to logistic regression analysis.

#### Improvement area for dental services

34% (n = 113) of all parents were aware of the Health Center Dental Service business hours. 39% (n = 132) informed that the dental services' morning schedule was the most convenient. The same percentage (39%) informed that for them the afternoon schedule was the most suitable, 20% (n = 68) reported no special predilection. 16% (n = 54) was familiarized with how much the dental services

at the health center should cost. 19% (n = 28) were parents of pre-school children lacking social security coverage. Out of the total 336 parents, 164 reported not using the dental service of the health center, and five parents did not provide an answer. The remaining 167 parents provided some sort of suggestion in order to improve care provided at the health center. Main recommendations were to improve service (n = 23), more services (n = 18) and better personal attention (n = 14). The remainder suggestions are presented in *table III*.

#### DISCUSSION

The present study revealed the fact that one third (33%) of pre-school children did not attend a dental office (*Figure 1*). Percentages are higher (42%) in those cases when the children lack social security coverage. This might indicate the fact that oral health might not be considered a priority, or that patients only attend the dental office in cases of oral symptoms.

Dr. Medina-Solís found that 31% of pre-school children enrolled in state schools had attended dental services in the last twelve months.<sup>6</sup> The present study

**Table I.** Saturated model for the logistic regression of factors associated to attendance to dental services at the health center.

Factors	Non adjustable odds ratio	CI 95%
Age of pre-school child (5 years or over)	2.50	1.33-4.5
Attendance to same school on previous year	2.26	1.36-3.76
Enrolled in «people's insurance»	4.24	1.74-10.32
Taking the child to SSA physician	2.76	1.54-4.93
Knowledge of business hours of dental services at health center	3.66	2.21-6.05
Knowledge of costs of dental services at health center	2.73	1.51-4.96
Attendance of parents to dental services of health center	9.45	5.45-16.40
Maternal schooling level (primary or over)	1.94	1.01-3.72

**Table II.** Final model of logistic regression of factors associated to attendance to dental services at the health center.

Factors	Non adjustable odds ratio	Adjusted odds ratio	CI 95% adjusted odds ratio	Interaction test	Value of p
Attendance of parents to dental service at the health center	10.07	10.48	5.91-18.58	0.0077	0.93
Attendance to same school during previous school year	2.24	2.40	1.36-4.26	0.0077	0.93

distributed almost equally, lack of financial resources was the main reason reported for non-attendance to the dental services of the health center.

Previous contact with the health team either at school or in an office increases the possibility of pre-school children's attendance to dental services. Two factors were associated to use of dental services at the health center: having attended the same school the previous year and the fact that the child's parents might have received treatment at the dental services of the health center.

The main suggestion to improve dental services was to improve equipment in the dental modules.

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