Final Report
Comunidad Sonrisas
Community-based oral health program for children in Til Til

Chile, April 2021
Effects of the Covid Pandemic in Oral Health

The COVID-19 Pandemic has been the most important public health challenge of this century. The coronavirus forced the public system to prioritize vital health needs, postponing oral health needs, affecting the most vulnerable sectors of the country.
We know that the consequences of a neglected oral health can be very serious for the future of the children:

- Worse nutrition and sleep quality: less development.
- Lower concentration and school performance.
- Cumulative damage with impact in adult life.

The experience of **Escuela Sonrisas** in 6 schools during 2019 alerted us of the complex situation and oral health conditions of the children in TilTil:

![Pie chart showing prevalence of decay](chart.png)

**Prevalence of Decay**
*Escuela Sonrisas Tiltil, 2019*

- **With decay history**: 81 (34%)
- **Without decay history**: 156 (66%)

*n = 227*
General Description
Comunidad Sonrisas

**Project Scope:** implementing a sustainable community-based intervention by generating opportunities of oral health promotion and prevention, while providing comprehensive oral health care for children.
Collaborative Partners
Key Actors of the Project
Comunidad Sonrisas

Direct Beneficiaries:

- 504 children between 1 and 11 years old.

Intervention Zones:

- 11 localities in Til Til.

Til til Centro, Huertos Familiares (Zona Centro-Sur y Norte), Rungue, Montenegro (Fundo La Estrella), La Cumbre, Caleu: El Llano, La Capilla, Punta Peuco, Santa Matilde, Huechún, Polpaico y Los Lingues.

Length:

- 4 months
Til Til, Sociodemographic Context

- 55% of the population lives in urban areas, 45% in rural areas
- Considered a “sacrifice area*” of the Metropolitan Region (north section)
- High levels of social vulnerability (great impact of social determinants of health)
- Great geographical constraints affects access to basic services (including potable water)
- Divided in 11 localities

*Sacrifice area due to the environmental impact of minery and other industries
Geography of Til Til

653 Km2 of desertic & dry climate, with summer temperatures over 35° Celsius
Implementation
Phases of the Project

INITIATION
- Selection of Beneficiaries
- Local Engagement (Municipality, Health Services, Seremi, Schools)
- Sonrisas site visit

PLANNING
- Operational Development (facilities, equipment, etc.)
- Logistics
- Articulation with the public system

IMPLEMENTATION
- Dental Treatments
- Educational Activities
- Referrals
- Discharges

EVALUATION
- Program Impact Report
- User Satisfaction Surveys
- New Challenges
Sonrisas Team

- Dr. Valentina Domínguez, DDS, Dental Director of Tiltil health center.s
- Javiera Tapia, Social worker, Project Manager of Fundación Sonrisas
- Dr. Constanza Haleby, DDS, Dental Coordinator of Fundación Sonrisas
- Catalina González, Nutritionist, Director of Huertos Familiares Cesfam in Tiltil
- Dr. Isidora Valdivieso, DDS, Dental Coordinator of Fundación Sonrisas
Territorial Strategy

- Preliminary planning and coordination with local healthcare teams and social development corporation of Tiltil.
- Coordination with social leaders, kindergarten / school directors and parents.
- Recognition and diagnosis of available infrastructure and oral health local needs.
- Preparation of a database and strategy for the appointments scheduling.
Primary Healthcare Services in Til Til

- Community Hospital of Til Til
- Cesfam (Health Family Center) in Huertos Familiare
- Cosam (Mental Health Center) in Til Til
- Posta (rural health center) Caleu
- Posta Montenegro
- Posta Rungue
- Posta Polpaico
Primary Healthcare Services in Til Til

Great variation in infrastructure between Cesfam and Rural Postas; from containers with only tables and chairs available for health check-ups and screenings to well constructed houses that includes a dental chair.
Implementation by locality:

Monday to Friday with 2 or 3 portable dental units

30 minutes sessions

140 sessions on average per week

Health promotion station to provide educational tools to children and parents
Considerations

Protocolos

- COVID prevention
- (+) COVID cases management
- Sterilization
- Cut and puncture wounds management
- Residual materials management
- Hep B vaccines registration
Activities

Promotion and education

- Dietary counselling
- Toothbrushing techniques
- Importance of fluoride toothpaste
- Oral health kit
- Educational materials for children and families
- Online sessions with teachers
- Digital content

Dental Treatments

- Emergency management
- Fluoride and sealants
- ART
- Restorations (Composite / I.G.)
- Dental extractions
- Prophylaxis and cleanings
Risk Analysis

Main difficulties that arose in the implementation of the project:

- Lack of updated children contact lists
- Non-attendance
- Language difficulties with Haitians families
- Climate and distance
- Covid pandemic
Results
Summary of Actividades

504   Children treated*

410   Comprehensive treatments **

2511  Dental Procedures

64    Referrals to dental specialist

14    Volunteer DDS

22    Local primary health providers involved

7     Dental students rotations

504   Parents involved

48    Teachers
Distribution of treatments by Age

*Children treated are all the patients that received a diagnosis, treatment plan and treatment sessions.

504 children treated
Distribution of treatments by Locality

- Til Til Centro: 2.8%, 63 treatments
- Polpaico: 12.5%, 214 treatments
- Huertos Familiares: 42.5%, 214 treatments
- Punta Peuco: 3.4%, 14 treatments
- La cumbre: 1.8%, 17 treatments
- Santa Matilde: 5.6%, 59 treatments
- Runge: 11.7%, 43 treatments
- Huechun: 2.6%, 13 treatments
- Montenegro: 8.7%, 44 treatments
- Caleu: 8.5%, 28 treatments

Total: 504 children treated
**Comprehensive treatments are those patients that fully completed their treatment and that the final DMFT Index in the D component was 0. (cavity free)

*N= 410 Comprehensive Treatments*
Distribution of comprehensive treatments by Age

N= 410 Comprehensive Treatments
Distribution of Dental Procedures

N= 2511

- Sealants: 1149
- Ionomer glass: 417
- Fluoride Varnish: 411
- Prophylaxis: 360
- Composites: 85
- Cleanings: 30
- SDF: 18
- Extractions: 15
Satisfaction Survey with the program

- Participation of 30 families
- **Dental Care**: 100% declared very satisfied or satisfied with the care received by the team
- **Dental Team**: 100% declared to be very satisfied or satisfied with the dental treatment carried out in the project
- **Education**: 93.3% declared having learned new content on oral health
Testimonies

“On behalf of Huertos Familiares CESFAM, we want to thank for this collaborative work led by Sonrisas. The intervention carried out for the children of Til Til is an important baseline for the sustainability of the treatments that will be covered by our Primary Care team.”
Catalina González, Director of Huertos Familiares CESFAM

“It was an excellent project, a pleasant environment and what better than to practise social dentistry in the places where we are needed.”
Arturo Henríquez, Volunteer DDS, Sonrisas Team
Testimonies

“We came from far away and that is why I want to thank what you’ve done for my daughter. Now she is healthy and is an opportunity I never had”
Parent of Fundo La Estrella Sector

“I gave up my pacifier in December because I made a deal with the dentists. Also, I am very happy with all my presents, especially my “ratoncito”.”
Children of Santa Matilde Locality
Damage Assessment

1. Decay History
2. DMFT (coed / CEOP) Index
3. Decay Risk Assessment
Prevalence of decay in Children of Tiltil (between 1 to 11 y.o.)

With cavities history
Prevalence of patients with the presence of decayed, filled and/or extracted teeth due to dental caries. In addition, the presence of incipient lesions was considered.

Without cavities history
Prevalence of patients with absence of decayed, filled and/or extracted teeth due to dental caries. In addition, the absence of incipient lesions was considered.

\[ N = 504. \]

Prevalence of decay in Children of Tiltil (between 1 to 11 y.o.)

Decay History

- With decay history: 314 (62.3%)
- Without decay history: 190 (37.7%)

With cavities history

Without cavities history
Distribution of DFMT Index by locality

DMFT Index average in children between 1 to 11 y.o. by locality
At 2 years old, the national average of the DMFT index is 0.5.
At 4 years old, the national average of the DMFT index is 2.3.
At 6 years old, the national average DMFT index is 3.7.

The damage and severity of tooth decay in primary teeth increases exponentially with age in the children of Tiltil, in addition, it’s higher than the national average.

Prevalence of Decay Risk in children between 1 to 11 y.o. in Tiltil.

Decay Risk Assessment

- **High Risk**
- **Moderate Risk**
- **Low Risk**

Examples:
- Oral hygiene
- Frequency and amount of sugary food intake
- Exposure to fluorides
- Social Economic condition
- Previous experience of decay, etc.

**Probability** of a person to develop new decay lesions or that pre-existing lesions advance and cause damage to dental tissues based on risk factors associated with caries disease.
“One Smile changes a life, many change a country”
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