

# Changes in oral health inequalities in adults in Chile

Marjorie Borgeat Meza PhD (c)<sup>1,2</sup>  | Iris Espinoza PhD<sup>2,3</sup>  | Paola Carvajal MSc<sup>3,4</sup>  | Rosa Cuevas MSc<sup>5</sup>

<sup>1</sup>Interdisciplinary Center for Health Studies, Faculty of Dentistry, University of Valparaíso, Valparaíso, Chile

<sup>2</sup>Faculty of Dentistry, Universidad de Chile, Santiago, Chile

<sup>3</sup>Center for Epidemiology and Surveillance of Oral Diseases (CESOD) and Department of Oral Pathology and Medicine, Faculty of Dentistry, University of Chile, Santiago, Chile

<sup>4</sup>Department of Conservative Dentistry, Faculty of Dentistry, University of Chile, Santiago, Chile

<sup>5</sup>Faculty of Dentistry, University of La Serena, La Serena, Chile

## Correspondence

Iris Espinoza Santander, Center for Epidemiology and Surveillance of Oral Diseases (CESOD), Faculty of Dentistry, University of Chile, Santiago, Chile.  
Email: iespinoz@u.uchile.cl

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## Abstract

The adult population in Chile has a high prevalence of dental caries and non-functional dentition. Fifteen years after the Health Reform, aimed to reduce health inequalities, it is necessary to analyse changes in social inequalities in oral health in Chilean adults.

**Methods:** A secondary analysis of data from 2003 and 2016–2017 National Health Surveys (NHS) in Chile was performed on seven oral health outcomes in adults: prevalence of untreated caries, prevalence of severe untreated caries, number of teeth with untreated caries, prevalence of functional dentition, prevalence of edentulism, number of remaining natural teeth and utilization of dental services. Inequalities were measured with the Slope Index of Inequality (SII) and the Relative Index of Inequality (RII) by education level.

**Results:** A decrease of caries inequalities measured with SII was observed from 2003 to 2016–17 NHS but an increase of remaining teeth inequalities was measured. The SII of the remaining teeth increased from 6.6 [95% CI = 5.0, 8.2] in 2003 to 8.8 [95% CI = 7.3, 10.3] in 2016–17. The SII of functional dentition by education increased from 29.0 [95% CI = 22.0, 36.0] in 2003 to 38.8 [95% CI = 32.6, 45.0] in 2016–17. The utilization of dental services  $\leq 1$  year was the only outcome that showed a decrease in absolute and relative inequality, the SII was 33.9 [95% CI = 23.3, 45.6] in 2003 and 26.2 [95% CI = 16.6, 35.8] in 2016–17 and the RII decreased from 2.5 [95% CI = 1.7, 3.3] in 2003 to RII = 1.8 [95% CI = 1.4, 2.3] in 2016–17.

**Conclusion:** The increase of tooth loss inequalities in contrast to the decrease of inequalities in dental services utilization show the need to re-evaluate the current dental programmes for adults in Chile. This may include establishing a stronger oral health promotion strategy and greater dental treatment coverage focusing on avoiding tooth extractions in vulnerable social groups.

## KEYWORDS

adults, inequalities, oral health

## 1 | INTRODUCTION

Oral health is essential for general health and well-being. Its deterioration affects the quality of life<sup>1</sup> and frequently requires dental

care services that can be restrictive due to their high cost, affecting the family budget and health care systems.<sup>2</sup> Despite improvements in oral health observed in several countries in recent decades, oral diseases remain a significant public health problem recognized by

the World Health Organization (WHO).<sup>3</sup> Globally, untreated caries in permanent teeth are the biggest problem with an estimated prevalence of 34.1% and total tooth loss reaches a prevalence of 7.8% in adults.<sup>4</sup>

In Chile, the prevalence of caries and tooth loss in adults has decreased in recent years. Between the first 2003 National Health Survey (2003 NHS) and the 2016–2017 National Health Survey (2016–17 NHS), untreated caries decreased from 67.7% to 54.6%<sup>5</sup> and the prevalence of non-functional dentition decreased from 29.7% to 24.8%,<sup>5</sup> but these prevalences are still higher than global averages. On the other hand, social inequalities in tooth loss in Chile are marked by education level<sup>6</sup> and are higher than in USA, Canada, Australia and New Zealand.<sup>7</sup>

Chile is a high income South American country, with 18 952 038 habitants in 2019.<sup>8</sup> The health system is mixed, with health coverage provided either by the state-funded National Health Fund (in Spanish: Fondo Nacional de Salud [FONASA]), which covers 78% of the population, private health insurance institutions (in Spanish: Instituciones de Salud Previsional [ISAPRES]), which cover 17–18% of the population, or by the Armed Forces insurance, which covers 3–4% of the population.<sup>9</sup>

The FONASA insured population has access to low complexity conservative dental care (fluoride varnish application and dental prophylaxis, sealants, direct composite and glass-ionomer cement restoration) with no cost at primary care health centres. More complex conservative treatments (endodontic and periodontal treatments and dental crowns) are available with a co-payment, depending on the income level and waiting list. In the case of the ISAPRE insured population, dental health care coverage plans vary greatly, with attention restricted to private health centres.

The Health Reform in Chile was implemented in 2005 with the aim to improve the health of the population, prolong life and disease-free years, and reduce health inequalities. The Health Reform incorporated Explicit Health Guarantees (in Spanish: Garantías Explícitas en Salud, GES), which assure access, quality of care and financial protection for a series of health problems.<sup>10</sup> Regarding oral health, this Health Reform includes programmes to provide coverage for adults in ambulatory dental emergency, oral health care for the 60-year-old adult (only during their '60-year-old' year) and oral health care for pregnant women.<sup>10</sup> However, even after this reform, the health system still shows inequalities in the improvement of health status (suicide rates) and financial protection (out-of-pocket expenditure).<sup>11</sup> Furthermore, the maintenance of a dual health system has led to pro-rich inequalities and differential access by gender, income and age group.<sup>12</sup> However, there have been no studies to date examining whether inequalities in oral health in adults during this period have changed.

Fifteen years after the health reform in Chile, and with information from the 2003 and 2016–2017 National Health Surveys, the aim of this study is to examine the changes over time in social inequalities in untreated caries, remaining tooth and time elapsed since the last dental visit by education level in Chile.

## 2 | METHODS

### 2.1 | Data source and study sample

This study was carried out using data from the first and third national health surveys (NHS), applied in Chile in 2003 and 2016–2017, respectively. NHS are cross-sectional surveys that report the prevalence of various diseases and health conditions and include oral health outcomes and access to dental care services. The NHS database is anonymized, for public use and can be downloaded from the website of the Epidemiology Department of the Ministry of Health.<sup>13</sup>

The NHS 2003 objective population were individuals aged 17 years and older with a random sample design that included those who had participated in the first Quality of Life and Health Survey in 2000. The sampling frame was defined using information about housing and population collected in the 1992 Census of Population, with a design comprising geographic clusters, households and one individual selected randomly from the household. This sample design achieved a national, urban and rural representativity. The NHS 2003 response rate was 90.2%.<sup>7</sup> The final sample included in this study was 3418 individuals with oral examination.

The NHS 2016–2017 objective population were individuals aged 15 years and older. The sample design could be characterized as probabilistic, geographically stratified and multi-staged. Prior to the selection of the sample, 30 sampling strata were formed by crossing region (15 regions) and area (urban and rural). In each stratum, communes were selected in the first sampling stage. In the second sampling stage, census blocks (urban area) or localities (rural area) were selected. In the third sampling stage, houses were selected and in the final sampling stage, one person aged 15 years and older per house was selected. This sample design achieved a national, urban, rural and regional representativity. The NHS 2016–2017 response rate was 90.2%.<sup>6</sup> The final sample included in this study was 5306 participants with oral examination.

Because of the difference in the target populations between surveys, in this analysis, we used data from individuals aged 18 years and older who had received an oral examination.

### 2.2 | Study measures

The 2003 and 2016–17 NHS registered equally the outcomes, untreated caries and remaining teeth by maxillary, and time elapsed since the last visit to the dentist. Caries was defined as a point, fissure or smooth surface, with solution of continuity, including filled tooth but also decayed, temporarily filled and root remnant. In both NHS, a clinical exam, that included third molars, was carried out by trained nurses. Nurses were trained by dentists through a theoretical and practical course with a final test of clinical cases regarding the number of remaining teeth and cavities. In NHS 2003, the inter-examiner reliability measured with kappa was 0.75 and in NHS

2016–2017 it was 0.85.<sup>6</sup> The NHS were approved by the Ethics Committee of the Catholic University of Chile.<sup>6</sup>

For this study, seven oral health outcomes were considered: (1) prevalence of untreated caries defined as  $\geq 1$  untreated caries, (2) prevalence of severe untreated caries defined as  $\geq 3$  untreated caries, (3) number of teeth with untreated caries, (4) prevalence of functional dentition defined as  $\geq 20$  natural remaining teeth, (5) prevalence of edentulism defined as absence of natural teeth, (6) number of remaining natural teeth and (7) utilization of dental services, a binary variable ( $>1$  year/ $\leq 1$  year). The number of teeth with untreated caries and number of remaining teeth were treated as count variables.

The education level was an ordinal variable with three categories reflecting the education levels in Chile: primary education or less ( $\leq 8$  years), secondary education (9–12 years) and technical or university education ( $\geq 13$  years).

In the 2003 NHS, the sample for analysis of tooth loss and utilization of dental services was  $n = 3334$  and for dental caries analysis it was  $n = 2515$ . In the 2016–2017 NHS, the sample for analysis of tooth loss and utilization of dental services was  $n = 5259$  and for untreated caries analysis it was  $n = 4324$ . The differences in the sample size in the analysis of untreated caries are explained by the fact that this analysis was carried out in dentate subjects only.

### 2.3 | Statistical analysis

We estimated the age-standardized mean and prevalence of untreated caries, remaining teeth and utilization of dental services in both surveys. Differences in means and prevalences between 2003 NHS and 2016–2017 NHS were estimated ( $p < .05$ ).

For the assessment of inequality by education level, we estimated the Slope Index of Inequality (SII) and the Relative Index of Inequality (RII) for absolute and relative inequality measure, respectively. SII and RII are regression-based measures that retain the inherent order of the categories and incorporate the populations weights. Since the socioeconomic variable (education level in this analysis) varies from 0 to 1, a one-unit change in the ranking variable represents moving from the bottom to the top of the socioeconomic distribution if the social position variable is ordered from the lowest to the highest level. Both measures are based on the estimated value of health at the bottom vs. the top of the distribution, so that  $SII = \hat{y}(1) - \hat{y}(0) = \beta_1$  and  $RII = \hat{y}(1)/\hat{y}(0) = [(\beta_0 + \beta_1)/\beta_0]$ .<sup>14</sup> The education level was transformed in a quantitative variable from 0 to 1, according to the distribution in the population, ordered from the lower to the higher education level.

To estimate SII and RII, we applied the method used by Elani et al,<sup>7</sup> in the total national samples in both surveys. For the count outcomes, we used a negative binomial regression for both SII and RII. For the binary outcomes, we used a logit regression.

In the case of poor health outcomes, as prevalence of edentulism, a SII  $< 0$  and RII  $< 1$  indicate absolute and relative inequality, respectively, with a greater prevalence of edentulism in the least

educated. In the case of good health outcomes, as prevalence of functional dentition, a SII  $> 0$  and RII  $> 1$  indicate absolute and relative inequality, respectively, with a lower prevalence of functional dentition in the least educated.

Age, sex and utilization of dental services were confounding variables for all models of caries and remaining teeth. For the last visit to dentist analysis, we used age and sex as confounding variables. Regions were not included because 2003 NHS did not have regional representation.

To consider the complex survey design, we utilized the survey weights, and all analyses were made using the survey data suite of Stata 16.0 (Stata Corp LP).

## 3 | RESULTS

Concerning oral health between 2003 and 2016–17 NHS, a decrease in all caries outcomes and an increase in remaining teeth were observed in total population. An increment in the proportion of the population who visit the dentist  $\leq 1$  year was also detected (Table 1).

By education level, between 2003 and 2016–17 a decrease in all measures of caries and an increase in mean remaining teeth and functional dentition was observed. This improvement is significant for the primary and secondary level of education, but not for university level. The visit to the dentist  $\leq 1$  year increases, although not significant statistically, in the primary and secondary education level (Table 2).

Regarding the social inequalities in oral health measured with SII and RII by education level (Table 3), in all measures of untreated caries, the absolute inequality decreased but the relative inequality increased. In the case of the number of untreated caries, moving from the lowest to the highest education level, a decrease in 2.6 untreated caries was observed between 2003 (SII =  $-3.5$  [95% CI =  $-4.3, -2.7$ ]) and 2016 (SII =  $-0.9$  [95% CI =  $-1.4, -0.3$ ]). However, the relative inequalities increased from RII =  $0.3$  [95% CI =  $0.2, 0.3$ ] to RII =  $0.6$  [95% CI =  $0.4, 0.8$ ], indicating that the number of untreated caries in the lowest education level was 0.6 times the number of untreated caries in the highest education level in 2016–17. Concerning the number of remaining teeth and prevalence of functional dentition, both absolute and relative inequalities increased. For the number of remaining teeth, an absolute increase of almost 7 teeth was observed (SII =  $6.6$  [95% CI =  $5.0, 8.2$ ]) in 2003 when moving from the lowest to the highest education level, difference which augmented to almost 9 in 2016–17 (SII =  $8.8$  [95% CI =  $7.3, 10.3$ ]). The relative inequalities increased from RII =  $1.4$  [95% CI  $1.3, 1.5$ ] in 2003 to RII =  $1.5$  [95% IC =  $1.4, 1.6$ ] in 2016–17 indicating that the number of remaining teeth in the highest education level was 1.5 times the number of remaining teeth in the lowest education level in 2016–17. The utilization of dental services  $\leq 1$  year was the only outcome that showed a decrease in absolute and relative inequality by education level, from SII =  $33.9$  [95% CI =  $23.3, 45.6$ ] in 2003 to SII =  $26.2$  [95% CI  $16.6, 35.8$ ] in 2016 and from RII =  $2.5$  [95% CI =  $1.7, 3.3$ ] in 2003 to RII =  $1.8$  [95% CI =  $1.4, 2.3$ ].

**TABLE 1** Distribution of the main characteristics of the national sample in NHS 2003 and NHS 2016–2017 surveys (95% CIs)

	NHS 2003 %	NHS 2016–2017 %
Sex		
Women	50.8	51.8 <sup>a</sup>
Men	49.2	48.2 <sup>a</sup>
Age group		
18–24	17.9	13.4 <sup>b</sup>
25–34	22.0	19.2 <sup>b</sup>
35–44	21.7	20.5 <sup>a</sup>
45–54	16.6	14.9 <sup>a</sup>
55–64	11.0	17.5 <sup>b</sup>
65–74	6.7	8.3 <sup>b</sup>
75–84	3.1	4.9 <sup>b</sup>
85+	1.0	1.3 <sup>a</sup>
Education level		
Low (≤8 years)	37.8	26.4 <sup>b</sup>
Secondary (9–12 years)	42.8	44.0 <sup>a</sup>
Technical or University (≥13 years)	19.4	29.6 <sup>b</sup>
Oral health outcomes <sup>c</sup>		
Mean untreated caries	2.8 (2.7, 3.0)	1.6 <sup>b</sup> (1.5, 1.7)
≥1 untreated caries	72.4 (69.5, 75.1)	56.7 <sup>b</sup> (54.2, 59.4)
≥3 untreated caries	41.2 (38.4, 44.0)	22.1 <sup>b</sup> (20.1, 24.2)
Mean remaining teeth	20.1 (19.8, 20.4)	22.3 <sup>b</sup> (22.0, 22.5)
Functional dentition	64.2 (62.4, 65.9)	73.7 <sup>b</sup> (72.2, 75.2)
Edentulism	7.3 (6.4, 8.3)	5.3 <sup>b</sup> (4.6, 6.2)
Last visit to dentist ≤1 year	37.3 (34.7, 39.9)	43.8 <sup>b</sup> (41.4, 46.3)

<sup>a</sup>No significant differences in proportions/means between surveys.

<sup>b</sup>Significant differences in proportions/means between surveys ( $p < .05$ ).

<sup>c</sup>Age-standardized means and prevalences.

## 4 | DISCUSSION

This is the first study in Chile that measures changes in oral health inequalities in adults between two time periods. Our findings show a maintained social gradient by education level in 2003 and 2016–17 NHS, while the inequalities in untreated caries and time since the last dentist visit (≤1 year) decreased and the inequalities in tooth retention increased.

The strengths of this study are that the data are from nationally representative health surveys and include three indicators to measure disparities in untreated caries and tooth retention. Additionally, the use of education level, one of the most common *proxies* of social position to measure absolute and relative social inequalities, is normally available in epidemiological studies and has a better response rate than income for example, which will allow comparison

with other surveys. However, caution must be taken with the use of education level as a measure of socioeconomic position in older adults, since this population is overrepresented in the less educated group due to a cohort effect.<sup>15</sup> A weakness of our study is that other social determinants, such as income, occupation, ethnicity, health insurance and behavioural variables, such as oral hygiene and sugar consumption, were not available in 2003 NHS. Additionally, the oral examination was performed by trained nurses instead of dentists. However, similar results in the diagnosis of untreated caries and teeth counting have been reported, when performed by trained healthcare technologists.<sup>16</sup>

There are several recent studies of nationally representative surveys from Australia, Canada, New Zealand, United States,<sup>17</sup> United Kingdom,<sup>18</sup> and Colombia<sup>19</sup> that also reports inequalities in untreated dental caries with a social gradient in favour of more educated groups. The same scenario is observed in tooth loss with studies, also nationally representative, from United Kingdom and United States,<sup>20</sup> South Korea,<sup>21</sup> Australia, Canada, New Zealand,<sup>7</sup> and Colombia,<sup>19</sup> showing a social gradient that affects negatively the lower educated groups.

The decrease in absolute inequalities in all untreated caries outcomes can be explained by the marked decrease in the mean and prevalence of untreated caries observed in the individuals with primary and secondary education level between 2003 and 2016, probably due to an increase, although not statistically significant, in the utilization of dental services in these groups. Regular attendance to dental services has been associated with a lower prevalence of caries in adults.<sup>22,23</sup>

The major Chilean health reform implemented in 2005, to assure access, quality of healthcare and financial protection for a series of health issues, including oral health problems, can explain the increment in dental services use. A previous study in Chile reported an increase in the use of dental services between 2004–2009, suggesting a role of the health reform in this increment.<sup>24</sup>

Contrary to what was observed in untreated caries outcomes and dental services utilization, the inequality in the number of remaining teeth and the prevalence of functional dentition increased, which could be understood as a negative aspect of the utilization of dental services. This finding is similar to what was seen in the United States with the Affordable Care Act (ACA) Medicaid expansion, where dental coverage in low-income adults increased, with subsequent tooth extractions.<sup>25</sup>

In Chile, the population with FONASA insurance can access free dental care in public primary healthcare centres, which provide general dentistry treatments of low complexity, with frequent dental extractions. In this group the out-of-pocket expenditure in dental services represents 16.3% of the out-of-pocket health expenditure.<sup>26</sup> This level of out-of-pocket expenditure is problematic due the income inequality existing in the country.<sup>27</sup>

The public general dentistry treatments of low complexity and high out-of-pocket payments may explain the inequality in the mean of remaining teeth and prevalence of functional dentition increase, despite the health reform and the increase in the use of dental services.

TABLE 2 Age-standardized mean and prevalence of oral health outcomes and utilization of dental services by education level in NHS 2003 and NHS 2016–2017 surveys (95% CIs)

Education level	NHS 2003				NHS 2016–2017			
	Primary (≤8 years) %	Secondary (9–12 years) %	University (≥13 years) %	Total %	Primary (≤8 years) %	Secondary (9–12 years) %	University (≥13 years) %	Total %
Mean untreated caries	4.0 (3.6, 4.4)	2.4 (2.2, 2.7)	1.4 (1.1, 1.7)	2.8 (2.7, 3.0)	1.8 <sup>b</sup> (1.6, 2.1)	1.6 <sup>b</sup> (1.5, 1.8)	1.3 <sup>a</sup> (1.1, 1.5)	1.6 <sup>b</sup> (1.5, 1.7)
≥1 untreated caries	81.1 (75.9, 85.4)	69.3 (64.5, 73.6)	54.5 (46.2, 62.6)	72.4 (69.5, 75.1)	60.9 <sup>b</sup> (54.0, 67.3)	58.8 <sup>b</sup> (55.1, 62.3)	50.0 <sup>a</sup> (45.1, 55.0)	56.7 <sup>b</sup> (54.2, 59.4)
≥3 untreated caries	56.9 (51.6, 62.1)	36.8 (32.4, 41.4)	17.4 (12.9, 23.0)	41.2 (38.4, 44.0)	28.4 <sup>b</sup> (23.4, 34.0)	23.6 <sup>b</sup> (20.7, 26.9)	17.4 <sup>a</sup> (13.7, 21.8)	22.1 <sup>b</sup> (20.1, 24.2)
Mean remaining teeth	18.5 (18.1, 19.0)	20.7 (20.1, 21.4)	24.7 (23.8, 25.6)	20.1 (19.8, 20.4)	20.0 <sup>b</sup> (19.5, 20.5)	22.9 <sup>b</sup> (22.4, 23.3)	25.2 <sup>a</sup> (24.6, 25.7)	22.3 <sup>b</sup> (22.0, 22.5)
Functional dentition	55.3 (52.4, 58.1)	68.0 (64.7, 71.0)	85.8 (79.1, 90.7)	64.2 (62.4, 65.9)	60.6 <sup>b</sup> (57.4, 63.7)	77.3 <sup>b</sup> (74.8, 78.5)	89.9 <sup>a</sup> (86.4, 92.7)	73.7 <sup>b</sup> (72.2, 75.2)
Edentulism	8.2 (7.1, 9.5)	6.5 (4.6, 9.2)	1.6 (0.5, 4.1)	7.3 (6.4, 8.3)	6.8 <sup>a</sup> (5.7, 8.1)	5.0 <sup>a</sup> (3.7, 6.6)	1.5 <sup>a</sup> (0.7, 3.4)	5.3 <sup>b</sup> (4.6, 6.2)
Last visit to dentist ≤1 year	28.1 (24.1, 32.4)	42.2 (38.1, 46.5)	53.4 (45.2, 61.2)	37.3 (34.7, 39.9)	31.4 <sup>b</sup> (26.1, 37.3)	46.2 <sup>a</sup> (42.7, 49.7)	51.3 <sup>a</sup> (46.3, 56.2)	43.8 <sup>b</sup> (41.4, 46.3)

<sup>a</sup>No significant differences in proportions/means between surveys.<sup>b</sup>Significant differences in proportions/means between surveys ( $p < .05$ ).

**TABLE 3** Slope index of inequality and RII of oral health outcomes and dental services utilization by education level in NHS 2003 and NHS 2016–2017 (in brackets the 95% confidence interval)

	NHS 2003		NHS 2016–2017		Changes between surveys (SII/RII)
	SII (95% IC)	RII (95% IC)	SII (95% IC)	RII (95% IC)	
Number of teeth with caries <sup>a</sup>	-3.5 (-4.3, -2.7)	0.3 (0.2, 0.3)	-0.9 (-1.4, -0.3)	0.6 (0.4, 0.8)	↓/↑
≥1 untreated caries <sup>a</sup>	-31.8 (-43.7, -19.8)	0.6 (0.5, 0.7)	-18.4 (-29.5, -7.3)	0.7 (0.6, 0.9)	↓/↑
≥3 untreated caries <sup>a</sup>	-46.3 (-56.0, -36.7)	0.3 (0.2, 0.4)	-16.1 (-25.6, -6.6)	0.5 (0.2, 0.7)	↓/↑
Number of remaining teeth <sup>a</sup>	6.6 (5.0, 8.2)	1.4 (1.3, 1.5)	8.8 (7.3, 10.3)	1.5 (1.4, 1.6)	↑/↑
Functional dentition <sup>a</sup>	29.0 (22.0, 36.0)	1.5 (1.3, 1.7)	38.8 (32.6, 45.0)	1.7 (1.5, 1.9)	↑/↑
Edentulism <sup>a</sup>	-4.4 (-7.6, -1.2)	0.4 (0.0, 0.7)	-6.1 (-8.7, -3.4)	0.2 (0.0, 0.4)	↑/↓
Last visit to dentist (≤1 year) <sup>b</sup>	33.9 (23.3, 45.6)	2.5 (1.7, 3.3)	26.2 (16.6, 35.8)	1.8 (1.4, 2.3)	↓/↓

<sup>a</sup>Adjusted by sex, age and dental services utilization.

<sup>b</sup>Adjusted by sex and age.

Other structural determinants of health, not measured in this study, may explain the reduction in oral health inequalities in Chile between 2003 and 2016–2017, such as improvements in Human Development Index, gross national income and reduction in poverty.<sup>28</sup> However, the neoliberal policies implemented in the Chilean health system disadvantage part of the population and favour more affluent groups that can afford private health care,<sup>12</sup> for example more complex conservative dental treatments.

We make a call to policy makers in Chile to re-evaluate the current dental programmes for adults, to establish a stronger oral health programme for adults with a focus on promotion and access to conservative dental treatment, avoiding tooth extractions in groups with greater social vulnerability.

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#### CONFLICT OF INTEREST

The authors declare that they have no competing interests.

#### AUTHOR CONTRIBUTION

Marjorie Borgeat: Conceptualization, methodology, formal analysis, writing-original draft. Iris Espinoza: Conceptualization, methodology, formal analysis, writing-review & editing, supervision, funding acquisition. Paola Carvajal: Conceptualization, writing-review & editing, supervision. Rosa Cuevas: Writing-review & editing. All authors read and approved the final manuscript.

#### DATA AVAILABILITY STATEMENT

These data were derived from the following resources available in the public domain: website of the Epidemiology Department of the Ministry of Health, Chile: <http://epi.minsal.cl/encuesta-ens/>.

#### ORCID

Marjorie Borgeat Meza  <https://orcid.org/0000-0002-5253-8502>

Iris Espinoza  <https://orcid.org/0000-0001-8949-8885>

Paola Carvajal  <https://orcid.org/0000-0001-5045-4412>

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