The Impact of Free Dental Health Services on Employment in Chile

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Sector(s): Labor Markets, Health, Gender

J-PAL office: J-PAL Latin America and the Caribbean

Location: Santiago, Chile

Sample: 799 individuals

AEA RCT registration number: AEARCTR-0000285

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Partner organization(s): Chile Sonríe

Access to dental care is limited in low- and middle-income countries, with poor dental health often being associated with lower socioeconomic status. Furthermore, there is limited evidence on how improved dental health can lead to improvements in social and economic outcomes. Researchers evaluated the impact of access to a package of free dental services on employment levels for urban residents of Santiago, Chile. Results found that participants with access to these services had better dental health, and that self-esteem and short-term employment increased among women, particularly those who had previously been missing front teeth or with lower levels of self-esteem.

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Policymakers have implemented and evaluated a range of programs around the world intended to increase labor market participation among low-income populations, including career counseling and skills training. However, some research indicates that physical appearance—and, in particular, dental health—may play an important role in an individual's labor market opportunities.[1] For example, oral health disorders may restrict job activities due to personal discomfort or may limit access to jobs which require frequent worker and/or customer interaction. Yet the relationship between dental health and labor market opportunities is not well-understood. How does providing free dental health affect self-esteem, employment outcomes, and interpersonal relationships?

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Low-income individuals in Chile tend to have worse dental health than those with higher incomes. In 2010, a nationally representative survey found that 29 percent of Chilean adults had not visited a dentist in the last five years, and this percentage was twice as high for those in the lowest income distribution compared to those at the top. Furthermore, only 18 percent of low-income Chileans reported having a full set of teeth, compared to 49 percent of high-income individuals.

Researchers partnered with Chile Sonrie—a private for-profit organization focused on transforming the national dental industry through innovation—to recruit individuals into a program offering free dental care, including access to prostheses, to

participants. In order to do so, researchers, in collaboration with Chile Sonrie, advertised the dental health program on public radio, television, newspapers, and at municipal offices. The ads targeted working-age Chileans living in the Santiago metropolitan area who were registered with Chile's public health system and in need of dental health services. On average, those who enrolled were low-income and had completed an average of eleven years of education (slightly above the country average). In addition, respondents had lower unemployment rates and more dental health problems than the average Chilean, on average missing more than ten teeth. Women responded in higher rates than men.



Two women, a dentist and her patient, look at a dental X-ray on a screen.

Photo: Shutterstock.com

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Researchers carried out a randomized evaluation from 2011 to 2015 to test the impact of providing free dental care on economic, social, and psychological outcomes. Of the 1,419 people that responded to the advertising campaign, only 799 were eligible to participate in the dental program, of which 350 were randomly assigned to receive dental services from Chile Sonrie and 449 were assigned to a comparison group.[2] The dental services group received a dental health diagnosis, a treatment plan based on their dental needs, and access to free services valued at approximately US$800. The services included dental cleanings and exams, x-rays, basic gingivitis treatment, fillings, and prosthetic teeth.

Researchers measured participants' use of the dental services, their overall dental health, and labor market outcomes. They also measured participants' self-esteem, satisfaction with interpersonal relationships, and perceptions of how their oral health affected their quality of life. Measurements were conducted on average one year and three years after the intervention was completed.

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Overall, researchers found that in the short term, dental treatment improved dental care among both men and women, positively impacted women's self-esteem, and increased women's employment rates and earnings. In the medium term, researchers found that while program effects on dental health and self-esteem persisted, effects on employment and earnings dissipated over time, apart from a few exceptions.

Dental Health: Access to free dental treatment led to oral health improvements, including greater likelihood of wearing dental prostheses, for both men and women in the short- and medium term. Researchers also found that on average, program participants had 1.2 fewer cavities than non-program participants and 3.4 fewer teeth in need of dental treatment.

Self-Esteem: Improved dental health led to higher self-esteem among women, with a 0.42 standard deviation improvement in the short term and 0.25 standard deviation improvement in the medium term. However, it had no self-esteem effects on men, which the researchers suggest may be because good oral health and an attractive smile are considered more important for women for social, cultural, and physiological reasons.

Employment: Researchers found that greater access to dental care led to a 5 percentage point increase in employment among men and women in the short term. Among women in particular, access to dental care increased employment levels by 6 percentage points. However, these results faded over time. Among women who were missing front teeth prior to the intervention, the impact of dental treatment was greater, with employment levels increasing by 20 percentage points, suggesting that improved employment outcomes were driven by appearance.

Importantly, the positive employment effects were visible only for women who were self-employed or working in the informal sector, but not for those who were formally employed. Access to free dental care also led to higher willingness to job search and higher preference for jobs with face-to-face interactions, suggesting that the improvement in overall employment outcomes were related to increased labor supply.

Earnings: Researchers found that access to dental treatment improved female participants' earnings by 0.14 standard deviations in the short term, though had no effect on male participants' earnings. However, these results faded over time.

Other Outcomes: Women with access to dental services experienced improvements in the quality of relationships with partners, most notably with lower levels of verbal violence. They also demonstrated greater interest in physical appearance, as indicated by changes in hair style; greater investment in jewelry, accessories, and clothing; greater investment in personal care and hygiene products; and increased use of make-up and fragrances. These findings indicate that better oral hygiene led to program participants investing more time, money, and effort towards related physical improvements.

Gallego, Francisco A., Cristian Larroulet, and Andrea Repetto. "What's Behind Her Smile? Looks, Self-Esteem, and Labor Market Outcomes." Working Paper, October 2018.

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1. Glied, Sherry, and Matthew Neidell. "The economic value of teeth." *Journal of Human Resources* 45, no. 2 (2010): 468-496. Mobius, Markus M., and Tanya S. Rosenblat. "Why beauty matters." *American Economic Review* 96, no. 1 (2006): 222-235.

2. Individuals with serious pre-existing medical conditions or under treatment for cardiac conditions were ineligible to participate in the dental program due to potential medical risks involved with treatment. Individuals with serious dental health problems (i.e., missing at least one front or premolar tooth, in need of upper and/or lower prostheses) were instead targeted to participate.