

Non-attendance at dental appointments: a brief review of causes and strategies for prevention

Camilo Garrido^{1, a} , Daniel Sepúlveda^{1, a} , Ricardo Zúñiga^{1, a} ,
Ricardo Cartes-Velásquez^{2, b} 

ABSTRACT

Non-attendance at dental appointments is a relevant problem in health care due to the negative consequences it entails. This article aims to review the causes of nonattendance and the strategies implemented for its prevention at the international level. Socioeconomic, cultural, geographic, and demographic factors are identified as the main causes of absenteeism. An inversely proportional relationship has been observed between socioeconomic status and absenteeism, with those patients with greater resources tending to have lower absenteeism. Socioeconomic and cultural factors, together with oral health education, influence the concern and frequency of dental checkups. Various solutions have been proposed, such as telephone or SMS reminders, although their effectiveness may vary due to patient familiarity and access to technology. There is a need to address this problem comprehensively and consider different approaches to reduce missed dental appointments.

Keywords: non-attendance, dental care, inequity.

INTRODUCTION

There is little research in such a relevant area to improve care in the dental field such as the case of nonattendance to dental appointments. Every time someone does not attend a health care service, not only is the time allocated by the professional for this service lost, but another patient is deprived of the opportunity to use those hours. This is a problem both in the medical and in the dental area (1). In this area, the number of patients who do not show up (NS) for their appointments is even higher, making it a topic for research and search for solutions (1-7). The aim of this article is to review the causes of non-attendance at dental appointments and the strategies that have been implemented internationally for their prevention.

¹ Universidad del Magdalena, Facultad de Odontología. Concepción, Chile.

² Universidad del Magdalena, Facultad de Medicina. Concepción, Chile.

^a Dentistry Intern.

^b Doctor in Medical Sciences.

Cite as:

Garrido C, Sepúlveda D, Zúñiga R, Cartes-Velásquez R. Non-attendance at dental appointments: a brief review of causes and strategies for prevention. *Rev Estomatol Herediana*. 2024; 34(1): 61-65. DOI: 10.20453/reh.v34i1.5331

Received: February 28, 2023

Accepted: October 19, 2023

Online: March 31, 2024

Conflict of interest: The authors declare that they have no conflict of interest.

Funding: Self-funded.

Authorship contribution:

CG, DS and RZ:

conceptualization, formal analysis, investigation, writing – original draft, writing – review & editing.

RCV: conceptualization, formal analysis, methodology, project administration, supervision, validation, writing – review & editing.

Corresponding author:

Ricardo Cartes-Velásquez
Address: Edmundo Larenas 450,
Concepción, Chile
Contact:
cartesvelasquez@gmail.com



Open access article, distributed under the terms of the Creative Commons Attribution 4.0 International License.

© The authors

© *Revista Estomatológica Herediana*

CAUSES OF DENTAL NON-ATTENDANCE

In Chile, Oliva et al. (2) found that 65% of pregnant women enrolled in the Explicit Health Guarantees (GES) program between 2014 and 2015 missed at least one dental appointment. Of these, 23% would not have finished their treatment. In the search for relevant scientific information that supports the topic under study, it was evidenced that socioeconomic factors were the most influential, which are also related to cultural aspects that vary between geographic areas. Nevertheless, there are studies in which the subject is addressed in different aspects. The value of dental care as a health priority for people, both individually and collectively, relates to the culture of each population. This is observed when comparing the results of various studies on absenteeism to dental appointments, such as the one conducted by Listl et al. (3) in adults over 50 years old in 14 European countries. These authors found that, among the most common reasons for not attending dental appointments was the patients' perception of "not being as necessary," at a rate of 23-64%. Similarly, Armfield (4) found that, out of a sample of 1083 Australian adults, 67% avoided going to the dentist, where 21% did so due to the lack of interest and 12% said they "do not like the dentist". We can observe that attendance at dental checkups is influenced by the perceived importance given to oral health by the various communities.

In turn, absenteeism is influenced by socioeconomic and educational level, which varies even within the same country or population. It influences the commitment of patients to dental care and compliance with dental care appointments in various ways. This hypothesis has been studied by several authors. Crocombe et al. (5) determined that having belonged to a low socioeconomic stratum in childhood influences the habit of regularly attending the dentist. Therefore, they found that, of the 833 participants in their study, only 30% regularly attended dental check-ups.

On the other hand, Gallego et al. (6) determined that the socioeconomic factor affects the quality of oral health and the importance given by individuals. They found that disinterest was more frequent in women, and that this was correlated with the presence of small children in the home, which made it impossible for them to attend dental appointments. According to the authors, this probably occurs because these women are engaged in time-consuming and costly childcare activities, suggesting that people with young children may be a very important target for oral health policies.

Although the results of both studies (5, 6) reinforce the idea that socioeconomic factors influence the quality of oral health and compliance with dental appointments, they contrast with those obtained by Listl (7), who concluded that absences related to the cost of care in adults were not significant, since the range of absences for this reason was 0.5-6.8% of the total number of patients NS.

Along with the cultural and socioeconomic factors is the population's education in terms of oral health, which can be improved through health promotion campaigns. Education turns out to be a highly relevant factor when analyzing the reasons for non-attendance at dental appointments. The lack of regular check-ups and the low value placed on oral health are causes of non-attendance that are repeatedly observed in the results of multiple research studies.

Bhatia et al. (8) determined the number and some of the most common reasons for absence of children to their dental checkups in India. 54% of patients were in the age group 7 to 12 years. Among the most frequent reasons was the forgetfulness of the proxies and/or guardians (17%); a second reason was that the patient "did not have any symptoms" (12%), so it was unnecessary to attend. Something similar to this reality occurs in 12- and 13-year-old adolescents in New Zealand, where there was a 25% of patients NS because they had no symptoms, while 26% did not think about the dentist and 10% believed it was not important (9).

Along the same lines are the results obtained from a study of pregnant women in Nigeria, where only 7% had reported an appointment during pregnancy. The reason was presence of pain, apart from finding that 62% of women had never been to the dentist, who again attributed this to the absence of symptoms and pain. Moreover, younger women were the least likely to attend checkups compared to older women (10).

In Latin America, a study of pregnant women in Bolivia highlighted factors such as "fear of attending due to cultural beliefs" that do not correspond to people's typical fear of visiting the dentist. This is because in this item women cited "fetal malformations, miscarriages and fainting" (11), reasons that can be further investigated. Meanwhile, in Colombia, Lozano et al. (12) concluded that 45% of pregnant women mentioned reasons of accessibility such as lack of money, difficulty to transport, and the location of the hospital.

Apart from the various reasons for non-attendance at dental checkups mentioned by the many authors mentioned above, there are also several causes that are not directly attributable to socioeconomic, cultural or demographic factors, but that represent a significant number. There are also cases where other reasons are registered. For example, Tandon et al. (13) reported that, out of a sample of 2294 patients, between March and August 2014, 886 did not attend their dental checkups, of which 40% did not attend for the reason of “not being able to leave school”, followed by 25% who were “not able to attend because they were sick”. On the other hand, Gustafsson et al. (14) reported that Swedish adolescents living with single parents were more likely to miss their check-ups (14). In contrast, Vingilis et al. (15), in Canada, found higher attendance of adolescents who were children of single parents compared to children of married parents.

On the other hand, in Colombia it was found that non-attendance was related to the quality of care perceived by patients, who referred to the poor quality of the dental service as the reason for non-attendance at their appointments. Furthermore, they mentioned it was difficult to pay for transportation to attend, so a transportation subsidy was generated, and it decreased absences in 87% (16).

PREVENTION OF DENTAL NON-ATTENDANCE

To expose the problem of missed dental appointments, there are several studies that offer solutions to this problem. In a study conducted by Storrs et al. (17) in a dental school in Australia, factors for patient's non-attendance were evaluated. The data included appointment status (attended, canceled, or NS) and a number of demographic and time-related factors. Attendance rates were also compared by year after the implementation of a text message (SMS) reminder at the beginning of 2012. The results showed that, of 58 622 appointments booked with students during those years, 68% of patients were checked, 23% were canceled, and 9% were No Show (NS). Women were 7% less likely to mark NS. Those aged 16-24 were five times more likely to mark NS; and early morning appointments were 18% less likely to be canceled and mark NS. With the SMS reminder system, the odds of cancellation were 15% higher, but NS were 14% lower.

In the United Kingdom, Kirby and Harris (18) describe several strategies to reduce the number of missed pediatric appointments, like for example reminding

the guardian by phone call and/or SMS, which helped to reduce no-shows and to keep track of patients by rescheduling appointments in a timely manner.

In Chile, a study by Garrido et al. (1) evaluated the implementation of a system for scheduling and reminding patients of appointments by phone calls. They observed not only a decrease in no-shows (from 24% to 21%), but also an increase in appointment scheduling due to the timely rescheduling of the hours of patients who did not attend, thus decreasing the number of free hours by up to 40% during some months. This improved the efficient use of human resources and cost for the health center where the strategy was implemented.

Bellucci et al. (19), in Australia, studied the rate of patients NS as well as patients following the implementation of SMS reminders in a public dental outpatient service over a period of 46 consecutive months. The authors found that the SMS intervention was not effective in reducing NS rates, unlike the literature on this measure, where the rate of patient attendance at outpatient clinics improves.

DISCUSSION

The analysis of the causes of non-attendance at dental appointments and the prevention strategies implemented at the international level has several important implications. First, socioeconomic and cultural factors have been identified as playing a significant role in dental appointment attendance. These factors influence the population's perception of the importance of oral health and their commitment to dental care. Therefore, interventions aimed at improving care should address these disparities and adapt to the specific needs and contexts of each population (3, 4, 6).

In addition, oral health education has been found to be a crucial factor in non-attendance at dental appointments. Lack of awareness of the importance of regular checkups and the value placed on oral health make patients avoid considering appointments as necessary, as they assume that the dentist is only necessary when there is damage or pain. Therefore, prevention strategies should include educational and health promotion programs that raise awareness and understanding of the importance of regular dental care (8-10).

Another relevant implication is the influence of the perceived quality of the dental service when attending appointments. Patients who experience a poor-quality service tend to avoid dental appointments. This

highlights the need to improve the quality of service and ensure a satisfactory patient experience, which may include additional training for dental health professionals and the implementation of measures to improve patient accessibility and comfort during appointments (16). Incidentally, there are limitations related to the cost of dental equipment and supplies, which in low-income contexts are difficult to afford. Nevertheless, it is possible to improve the perception of the service and its use through improvements in treatment, which are generally valued by patients.

Despite significant findings, it is important to recognize the limitations of the evidence presented. Thus, most studies have been conducted in specific countries and in particular contexts, which limits the generalization of results in other populations and settings. More research needs to be done in different geographic regions, and the specific causes and solutions to each local context need to be evaluated (20).

In addition, some studies show discrepancies in their results, suggesting that the determinants of dental appointment attendance may vary in proportion to different populations. This highlights the need for additional research to understand the specific causes of non-attendance in each population and to develop personalized intervention approaches (20).

Based on the implications and limitations of the evidence presented, the following recommendations for future studies are proposed:

1. To conduct research in different countries and settings to understand the causes of dental appointment non-attendance in diverse populations, and address existing disparities.
2. To thoroughly investigate the influence of socioeconomic and cultural factors on dental appointment attendance, including the impact of economic and geographic accessibility to attend appointments.
3. To conduct longitudinal studies that evaluate the long-term effectiveness of strategies to reduce absenteeism.
4. To innovate in the use of new information technologies, also making use of principles of social psychology to obtain a greater appreciation of dental services.
5. To generate interventions that include the participation of other health professionals, as well as social services, so that dental care is recognized by health and welfare services.

CONCLUSIONS

The influence of socioeconomic and cultural factors, as well as the oral health education of the population, are key elements that affect the concern and frequency of dental checkups, as highlighted in the research reviewed. Given the significant and complex problem of non-attendance at dental appointments, several studies that propose solutions have been conducted. These proposals mostly focus on phone or SMS reminders, although their effectiveness has been variable due to patient familiarity and access to technology.

REFERENCES

1. Garrido JC, Matamala D, Cartes-Velásquez R, Campos V. Improving dental service utilization rate using a proactive telephone-based scheduling strategy in primary healthcare. *Pesqui Bras Odontopediatria Clín Integr* [Internet]. 2020; 20: e5043. Available from: <https://doi.org/10.1590/pboci.2020.024>
2. Oliva J, Olivares M, Cartes-Velásquez R, Luengo L, Campos V. Use of the explicit health guarantee of oral health care for pregnant women at a Family Health Center, Concepción, Chile, 2014- 2015. *Dent Med Probl* [Internet]. 2018; 55(2): 179-183. Available from: <https://doi.org/10.17219/dmp/85878>
3. Listl S, Moeller J, Manski R. A multi-country comparison of reasons for dental non-attendance. *Eur J Oral Sci* [Internet]. 2014; 122(1): 62-69. Available from: <https://doi.org/10.1111/eos.12096>
4. Armfield J. The avoidance and delaying of dental visits in Australia. *Aust Dent J* [Internet]. 2012; 57(2): 243-247. Available from: <https://doi.org/10.1111/j.1834-7819.2012.01697.x>
5. Crocombe LA, Broadbent JM, Thomson WM, Brennan DS, Slade GD, Poulton R. Dental visiting trajectory patterns and their antecedents. *J Public Health Dent* [Internet]. 2011; 71(1): 23-31. Available from: <https://doi.org/10.1111/j.1752-7325.2010.00196.x>
6. Gallego F, Larroulet C, Palomer L, Repetto A, Verdugo D. Socioeconomic inequalities in self-perceived oral health among adults in Chile. *Int J Equity Health* [Internet]. 2017; 16(1): 23. Available from: <https://doi.org/10.1186/s12939-017-0519-9>
7. Listl S. Cost-related dental non-attendance in older adulthood: evidence from eleven European countries and Israel. *Gerodontology* [Internet]. 2016; 33(2): 253-259. Available from: <https://doi.org/10.1111/ger.12151>

8. Bhatia R, Vora EC, Panda A. Pediatric dental appointments no-show: rates and reasons. *Int J Clin Pediatr Dent* [Internet]. 2018; 11(3): 171-176. Available from: <https://doi.org/10.5005/jp-journals-10005-1506>
9. Murray C, Densie IK, Morgan C. Dental attendance, perceptions of cost and self-care of school year 12 and 13 students: a focus on Southland, New Zealand. *New Zeal Dent J* [Internet]. 2015; 111(4): 133-141. Available from: <https://pubmed.ncbi.nlm.nih.gov/26761980/>
10. Adeniyi AA, Ogunbanjo BO, Sorunke ME, Onigbinde OO, Agbaje MO, Braimoh M. Dental attendance in a sample of Nigerian pregnant women. *Nig QJ Hosp Med* [Internet]. 2010; 20(4): 186-191. Available from: <https://pubmed.ncbi.nlm.nih.gov/21913526/>
11. Veliz V. Factores que influyen en la inasistencia de las mujeres embarazadas a la atención odontológica durante los controles prenatales en seis centros de salud de primer nivel en Cercado, Cochabamba, Bolivia. *Gac Méd Bol* [Internet]. 2018; 41(1): 20-23. Available from: <http://www.scielo.org.bo/pdf/gmb/v41n1/v41n1a5.pdf>
12. Lozano AX, Cala AC, Molina HM. Factores asociados a la no adherencia al programa de control prenatal en las gestantes captadas en la ESE Hospital Integrado Sabana de Torres [Tesis de grado en Internet]. Bucaramanga: Universidad Autónoma de Bucaramanga; 2011. Available from: <http://hdl.handle.net/20.500.12749/13111>
13. Tandon S, Duhan R, Sharma M, Vasudeva S. Between the cup and the lip: missed dental appointments. *J Clin Diagn Res* [Internet]. 2016; 10(5): ZC122-ZC124. Available from: <https://doi.org/10.7860/JCDR/2016/.7842>
14. Gustafsson A, Broberg AG, Bodin L, Berggren U, Arnrup K. Possible predictors of discontinuation of specialized dental treatment among children and adolescents with dental behaviour management problems. *Eur J Oral Sci* [Internet]. 2010; 118(3): 270-277. Available from: <https://doi.org/10.1111/j.1600-0722.2010.00734.x>
15. Vingilis E, Wade T, Seeley J. Predictors of adolescent health care utilization. *J Adolesc* [Internet]. 2007; 30(5): 773-800. Available from: <https://doi.org/10.1016/j.adolescence.2006.10.001>
16. Rodríguez-Páez FG, Jiménez-Barbosa WG, Jiménez-González CA, Coral-Córdoba AE, Ramírez-Solano PC, Ramos-Navas NR. Efecto de las barreras de acceso sobre la asistencia a citas de programa de control prenatal y desenlaces perinatales. *Rev gerenc Polít Salud* [Internet]. 2014; 13(27): 212-227. Available from: <https://doi.org/10.11144/Javeriana.rgyaps13-27.ebas>
17. Storrs MJ, Ramov HM, Laloo R. An investigation into patient non-attendance and use of a short-message reminder system at a university dental clinic. *J Dent Educ* [Internet]. 2016; 80(1): 30-39. Available from: <https://pubmed.ncbi.nlm.nih.gov/26729682/>
18. Kirby J, Harris JC. Development and evaluation of a 'was not brought' pathway: a team approach to managing children's missed dental appointments. *Br Dent J* [Internet]. 2019; 227(4): 291-297. Available from: <https://doi.org/10.1038/s41415-019-0621-z>
19. Bellucci E, Dharmasena L, Nguyen L, Calache H. The effectiveness of SMS Reminders and the impact of patient characteristics on missed appointments in a public dental outpatient clinic. *Australas J Inf Syst* [Internet]. 2017; 21. Available from: <https://doi.org/10.3127/ajis.v21i0.1405>
20. Campbell SM, Roland MO, Buetow SA. Defining quality of care. *SOC Sci Med* [Internet]. 2000; 51(11): 1611-1625. Available from: [https://doi.org/10.1016/s0277-9536-9536\(00\)00057-5](https://doi.org/10.1016/s0277-9536-9536(00)00057-5)