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# Oral Health Perceptions and Practices Among Visually Impaired People in Rio de Janeiro, Brazil

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• **Conflicts of interest: none declared.**

## Abstract

**Objective:** this study aimed to understand the oral health perceptions and practices of visually impaired people in Rio de Janeiro, Brazil. **Materials and Methods:** exploratory, descriptive questionnaire-based research, whose data were recorded in IBM SPSS and reported in simple frequencies. **Results:** 54.5% of the partially blind and 62% of the completely blind participants reported brushing their teeth more than twice a day and using toothbrush (partially blind: 100%; completely blind: 96.5%) rather than other oral hygiene aids. Visiting a dentist 6 to 12 months previously was reposted by 36.3% of the partially blind participants, with 81.8% using a private service, and 72.6% perceiving their oral health to be good or regular. Visiting a dentist up to 6 months previously was reported by 27.5% of the completely blind participants, who preferred a public service(55.1%) and perceived their oral health to be regular (51.7%). **Conclusion:** both groups recognized the absence of educational material designed specifically to help educate visually impaired people about oral health. There should be public policies specifically for this segment of the population that should not be restricted to the management of care but incorporate health education as an important tool for addressing the challenge of equipping individuals to become autonomous in their self-care.

**Keywords:** Visual impairment; Health promotion; Health knowledge, Attitudes and practice.

## Introduction

In dentistry, what distinguishes disabled from non-disabled patients is not the state of their oral health, but issues beyond the scope of dentistry itself.[1]

Individuals who are classified as visually impaired may be blind in both eyes, blind in one eye and either normal or partially sighted in the other, or be partially sighted in both eyes. In Brazil, 6.5 million people were classified as visually impaired in the 2010 census: 582,000 blind and 6 million partially sighted.[2]

These patients' visual impairment means that they often lack the manual skills to achieve satisfactory oral hygiene. Furthermore, their oral health tends to be pushed down the list of priorities given the range of other challenges disabled people face on a daily basis.[3]

The oral health of visually impaired people is an important issue because sight is the primary channel of interaction with the outside world, capable of picking up and organizing information received through the other senses[4]. It is also very valuable in self-care and education.

Unfortunately, in Brazil the supply of dental services for disabled people is still incipient. As such, as much information and as many resources as possible should be made available to these individuals to encourage and raise their awareness about and enable them to take joint responsibility for their oral health[5]. It is from this perspective that this study investigates the perceptions and practices of visually impaired individuals from Rio de Janeiro, Brazil, with regard to oral health.

## Material and Methods

This exploratory study of a descriptive nature, employing a quantitative approach, was conducted in three institutions in Rio de Janeiro, Brazil: the Union of the Blind, the Brazilian Association of the Blind, and the Blind Alliance Association. It received ethical approval from the Pedro Ernesto University Hospital research ethics committee (opinion # 2.600.324).

Forty volunteers from the aforementioned institutions were enrolled to take part in the study. The inclusion criteria were: being totally or partially blind, being 18 or older, and agreeing to the terms of the Informed Consent Form. A structured questionnaire was administered in the form of an interview with the aim of ascertaining the volunteers' perceptions and daily practices in terms of oral health. The questionnaire was prepared on the basis of a literature review and adapted to the study objectives after a pilot test with four volunteers.

The information collected on the questionnaires was analyzed using IBM SPSS 17.0.

## Results

Twenty-nine of the participants were completely blind and 11 were partially blind; 24 were male and 16 were female. Table 1 shows their answers concerning their perceptions of oral health and their oral hygiene practices.

**Table 1.** Oral health perceptions and practices.

| Oral Health Perceptions and Practices | Partially Blind | | Completely Blind | |
|---|---|---|---|---|
| **How often do you brush your teeth?** | **N** | **%** | **N** | **%** |
| Once a day | 2 | 18.1% | 2 | 6.8% |
| Twice a day | 3 | 27.2% | 9 | 31% |
| More than twice a day | 6 | 54.5% | 18 | 62% |
| **What do you use to brush your teeth?** | **N** | **%** | **N** | **%** |
| Toothbrush | 11 | 100% | 28 | 96.5% |
| Toothbrush + Dental Floss | 5 | 45.4% | 10 | 34.8% |
| Toothbrush + Mouthwash | 1 | 9% | 7 | 24.1% |
| Toothbrush + Other | 2 | 18.1% | 3 | 10.3% |
| **When was the last time you went to the dentist?** | **N** | **%** | **N** | **%** |
| Six months ago | 0 | 0 | 8 | 27.5% |
| 6 – 12 months ago | 4 | 36.3% | 4 | 13.7% |
| 1 – 2 years ago | 2 | 18.1% | 6 | 20.6% |
| 2 – 5 years ago | 3 | 27.2% | 4 | 13.7% |
| More than 5 years ago | 2 | 18.1% | 7 | 24.1% |
| **What kind of service do you look for when you have to go to the dentist?** | **N** | **%** | **N** | **%** |
| Public | 2 | 18.1% | 16 | 55.1% |
| Private | 9 | 81.8% | 13 | 44.8% |
| **How is your oral health?** | **N** | **%** | **N** | **%** |
| Good | 4 | 36.3% | 12 | 41.3% |
| Regular | 4 | 36.3% | 15 | 51.7% |
| Poor | 2 | 18.1% | 2 | 6.8% |
| Don't know | 1 | 9% | 0 | 0 |
| **Do you feel there should be more educational material for visually impaired people to help them understand about oral health and how the oral cavity works?** | **N** | **%** | **N** | **%** |
| Yes | 7 | 63.6% | 23 | 79.3% |
| No | 4 | 36.3% | 6 | 20.6% |

Abbreviations: N: Number, Percentage: %

## Discussion

With regard to the participants' oral health self-care routine, the majority of both groups (54.5% of partially blind and 62% of completely blind) stated they brushed their teeth more than twice a day, which is consistent with other studies.[5,6,7] It should be noted, however, that individuals will tend to give what they imagine to be the "right" answer about good oral hygiene. Nonetheless, it is understood that the effectiveness of hygiene is more important than how often it is performed. Indeed, Cericatto & Lamha[8] noted that 65% of the visually impaired participants of their study did not brush their teeth correctly, but that the association between poor teeth-brushing and loss of teeth was greater in the patients who were completely blind.

All the partially blind participants and 96.5% of the completely blind participants reported using a toothbrush for their oral hygiene. It is believed that those who reported not using a toothbrush did so because they were edentulous. Fewer than half of the participants in both groups made use of dental floss, mouthwash, or other options. It should be noted that the information the participants gave on their self-care practices relate to the knowledge and customs deemed acceptable in society, yielding a similar result to that of Unfer & Saliba[9]. In particular, flossing is time-consuming and hard to do properly.[10]

Blind and partially blind patients often have high levels of biofilm, which could be explained by a difficulty in performing adequate oral hygiene and the impossibility of seeing whether biofilm has been removed or if there was gum bleeding during brushing.[11]

While oral hygiene is an important aspect of good oral health and self-care, regular visits to a dentist are also

important. The highest proportion of the partially blind participants in our study had visited a dentist between 6 and 12 months previously (36.3%), while the highest proportion among the completely blind participants had visited one within 6 months (27.5%). The vast majority of the partially blind participants (81.8%) opted for private dental care, while public dental care was more common among the completely blind participants (55.1%). Pinheiro & Torres[12] argue that it is important for individuals to understand their dental needs when it comes to seeking out a dental service. There is still a portion of the population that understands oral health in terms of the surgical/restorative model. They do not understand that diseases take hold before there are any clinical signs, which, in the case of the population under study, are primarily tooth sensitivity and toothache.

Education policies designed to make knowledge about preventive care more widely known and to guide the population on health care are important questions for health management in the country. However, access to health services is still a common issue faced by decision makers, directly driving the option for private services, through either health insurance or direct payment.[13]

In a study by Moura *et al*[14] it became clear that dental surgeons are essentially sought out once dental issues have already manifested, although the interviewees recognized that this was not good practice. Sixty-five percent of the study population reported only seeking dental care occasionally or only when they had some problem. This indicates that the decision to visit a dentist is closely related to self-perceptions of oral health.

Most of the partially blind participants stated that their oral health was good (36.3%) or regular (36.3%), while around half of the completely blind participants reported it was regular (51.7%). Not only are these results similar to those found by Cardoso *et al*[15], but they are also consistent with the findings of the latest epidemiological survey on oral health in Brazil, which found that 37.1% of adults felt their oral health was satisfactory[16]. People's actual experience, often based merely on the experience of having a cavity, is what molds their perceptions of oral health, which is somewhat different from the precepts of health promotion.

Generally speaking, our findings are consistent with Unfer and Saliba[9] who suggest that the population should be informed about the importance of promoting good oral health, to catch diseases before there are clinical signs, enabling early diagnosis and prompt treatment, and minimizing the complexification of disease.

The majority of the partially blind (63.6%) and blind (79.3%) participants felt there was a shortage of educational material for visually impaired people to help them learn about oral health and physiology. Costa *et al*[17] demonstrated the effectiveness of an educational strategy in reducing visible biofilm among visually impaired people and comment that this education should be provided on an ongoing basis. Nandini[18] reports the importance of understanding and considering the limitations of people who are visually impaired when providing oral health education for them, understanding that this is something health services should provide as a matter of course.

Most of the participants of this study felt their oral health was regular. Although the majority of both groups reported brushing their teeth more than twice a day, using a toothbrush but not necessarily other dental hygiene aids, notable differences were found between the two groups analyzed. The highest proportion of partially blind participants had seen a dentist in a private healthcare setting within the previous six to twelve months, and felt their oral health was good or regular. In contrast, the participants who were completely blind had seen a dentist up to six months previously in a public healthcare setting and felt their oral health was regular. The study also found that both groups recognized there was a shortage of special educational material for visually impaired people to understand more about oral health.

## Conclusions

Public policies should be devised for this segment of the population that are not restricted merely to the management of care, but also cover health education as a strategic tool for addressing the challenge of equipping individuals to become autonomous in their self-care.

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## Mini Curriculum and Author's Contribution

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