



Oral Health Care of People with Disabilities - A Challenge in Dental Education in Georgia

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Abstract

Introduction: The dental caries and periodontal disease are the most prevalent diseases in people with disabilities. In 2014 The Association for Dental Education in Europe set up a special interest group to develop the field “Special Care dentistry”, which provides oral care services for people who are unable to accept routine dental care. **Aim:** This article aims to substantiate the role of implementation “Special Care Dentistry” in the dental curriculum and describes the importance of continuing medical education for the dentists, to provide equal and adequate dental services to the people with disabilities in Georgia. **Methods:** The first part of research was based on the analysis of the secondary data for identification the structure of the dental education programs of Georgian higher education institutions; A quantitative and qualitative data was analyzed among 160 people with disability through a specially designed questionnaire, deep interviews were conducted with participants, dentists, and managers of dental clinics. **Results:** 25% of Dental Clinic Managers reported, that their clinics are adapted for people with disabilities. Dental caries 18%, missed tooth due to caries 24% and gingival bleeding was detected in 47.8% of study participants, among them 10.6% outlined the lack of doctor qualifications and experience. **Discussion:** Provision comprehensive dental services to people with disabilities remain a significant challenge for dental clinics. A small number of dentists in Georgia have completed a continuing medical education course in special care dentistry. **Conclusions:** The oral

health of people with disabilities in Georgia is unsatisfactory. More affords should be performed to implement “Special Care Dentistry” in dental education in Georgia.

Keywords: Dental Education; People with disabilities; Dental Caries; Periodontal diseases

Introduction

According to the World Health Organization (WHO), 15% of population have different types of disabilities being one of the largest groups in the world. Today, the number of people with disabilities is increasing in almost every country. Georgia ratified the United Nations Convention on the Rights of Persons with Disabilities (UNCPRD) in 2013. The convention states: "Health professionals are obliged to provide equal quality health services to people with disabilities, including based on free and informed consent." Provision of health services for individuals with disabilities must be equally accessible. Studies on the availability of dental care services for them and the readiness of dentists to treat these individuals in Georgia are very few.

A visit to the dentist and dental services are essential for people with disabilities. A healthy oral cavity is one of the main conditions of individuals general health. Dental caries and periodontal disease are known to be the most prevalent diseases of the oral cavity and play an essential role in global morbidity.

The studies conducted in Portugal (Couto et al. 2018; Haagsma JA et al. 2020), Hungary (Ilona et al. 2019; Orsos et al. 2018;), Germany (Peres MA et al. 2019; Schulte AG et al. 2021), Ireland (Hollatz et al. 2019; Owens J. 2011; Phadraig. M et al.2015), etc., proves that people with disabilities have a higher prevalence of dental caries and periodontal disease compared to people without disabilities.

International studies have shown that students of the dental education programs need to study and develop special care dentistry in the learning process, that will ensure the development of the skills and competencies needed to provide comprehensive dental services to people with disabilities in the future (Dougall et al. 2013; Gysling SP et al. 2020; Rohani et al. 2021) Special Care Dentistry is one of the major course in dental education programs at the world's leading universities (Dublin Dental University, New York University, etc.). This course provides students with the necessary knowledge and practical skills that ensures comprehensive dental services to people with disabilities (preparations, restorations, endodontics, professional cleaning, tooth extraction, etc.).

One of the major challenges in modern dental education is to provide safe and qualitative dental care services for all members of the community.

The knowledge, skills, and competencies that will be developed based on curriculum, will ensure the qualitative and safe dental procedures. The results of international studies prove that dentists are constantly in need of training in continuing medical education to provide complete dental services for people with disabilities (Chadwick, Chapman, and Davies 2018).

Methods

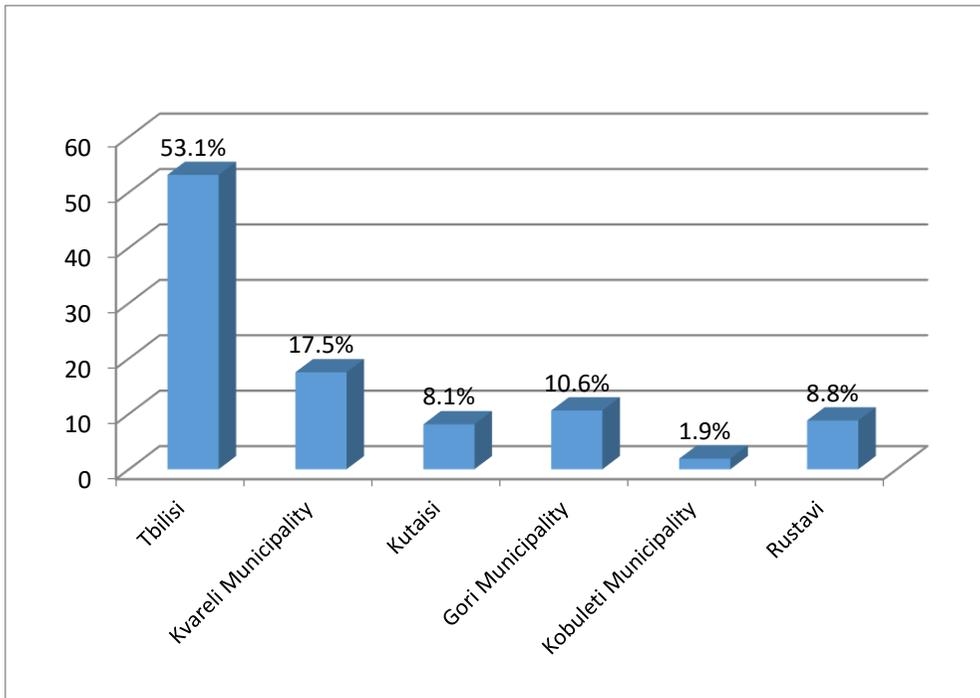
The first part of our research was based on the analysis of the secondary data with the aim of desk research – to identify the structure of the dental education programs of Georgian higher education institutions. The source of data: National Statistics Office of Georgia and the Ministry of Education and Science of Georgia. Based on 2020-2021 data there are 19 state and 45 private higher education institutions in Georgia. The dental education program is included in 12 higher education institutions. "Special Care Dentistry" as a compulsory discipline is not included in the curriculum of any of them. Cross-sectional method of observational study had been chosen for study design, which provides a comparative analysis of data obtained from the survey of people with disabilities and control group.

A quantitative research method was used to study 160 people with disabilities in Georgia through a specially designed questionnaire, approved by the Ethics Council of Biomedical Research of the University of Georgia. During the study, the oral cavity of the target population was clinically examined to assess oral health. This research, in addition to the quantitative research method, envisages the use of qualitative research methods. Quantitative research involves stratified simple random sampling and, in extreme cases, the use of a non-random method (snowball principle). As a part of the qualitative research, deep interviews were conducted with people with disabilities, dentists, and managers of dental clinics.

Results

The survey was conducted in the capital of Georgia, Tbilisi, as well as in five different municipalities, namely Kutaisi, Gori, Rustavi, Kvareli, and Kobuleti. The survey included 160 people with disabilities with the equal gender allocation (50/50). The age cluster was selected using the World Health Organization's Manual, Oral Health Surveys Basic Methods (fifth edition), subgrouping people with disabilities by the age intervals 15–19, 35–44, and 65–74. Figure 1.

Figure 1.Proportional allocation of Respondents by cities



Dental Caries (18%), Missed due to caries (24%), restoration (8%) were detected among participants. Figure2.

Percentage of Dental caries, Missing, Filled and Healthy teeth among the surveyed population

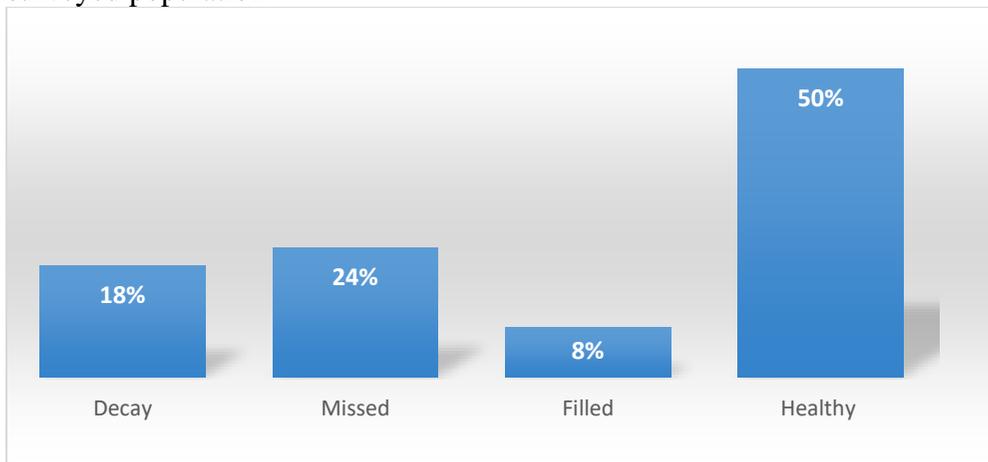


Figure 2. Percentage of Gingival Bleeding

Majority of respondents (51.3%) apply to dentist only in case of pain, while for 86.9% the visit to the doctor is unplanned. Gingival bleeding was

detected in 47.8% of study participants with disabilities and in 41.4% a periodontal pocket 4-5 mm deep. (Figure 3,4)

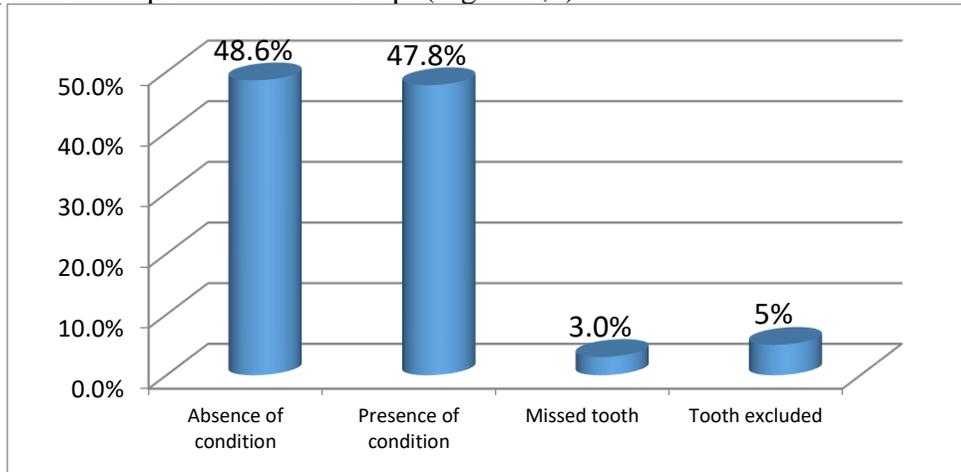


Figure 3. Percentage of Periodontal pocket

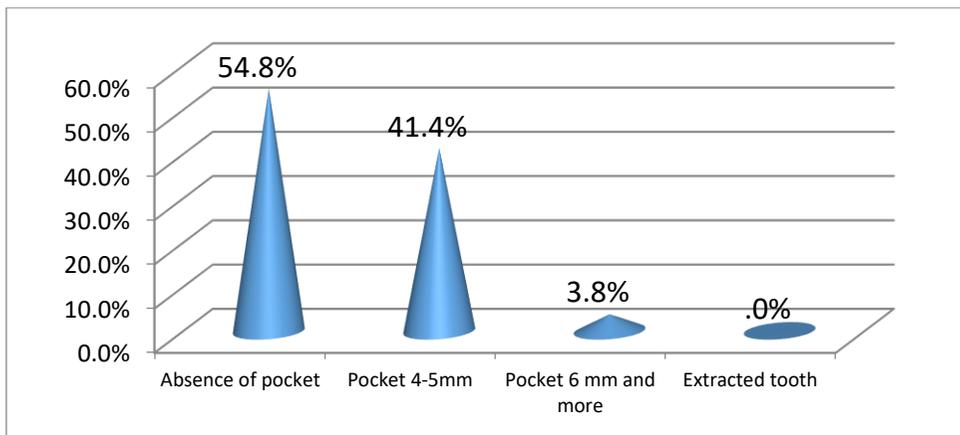


Figure 4. Crosstabular analysis

Only 36.9% of respondents reported brushing their teeth twice a day, 10% of those with disabilities did not visit a dentist at all, 44.4% reported discomfort while knabbing the food, and 38.8% while chewing.

Dental caries was found in 81.1% of people with disabilities living in the cities, and 97.9% of people with disabilities living in municipalities. $\chi^2 = 3,4$ and $P = 0.045$, indicating relation between the settlement type and the development of tooth disease. The chance of tooth decay in an urban area is 0.93, while in municipalities 4,286. OR = 4.6. That is, the life factor in the municipality is important. Figure 5.

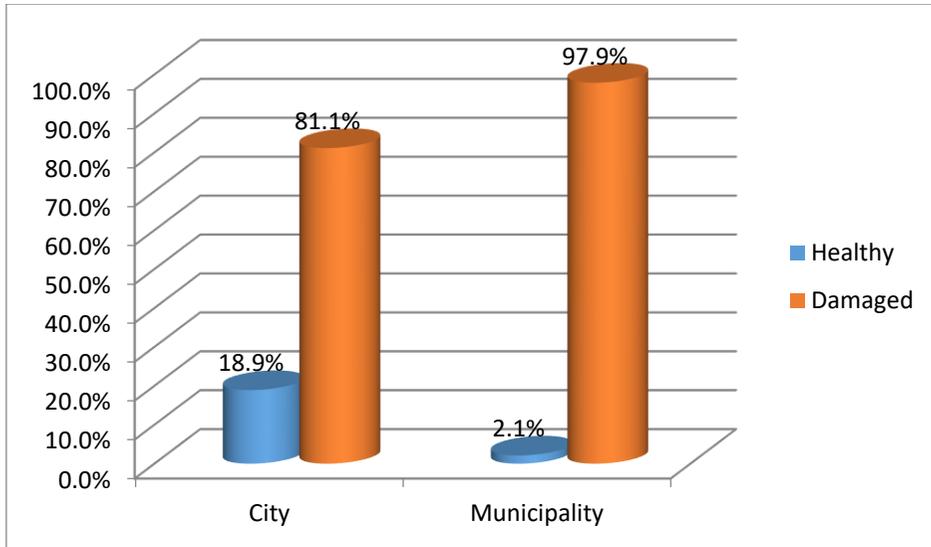


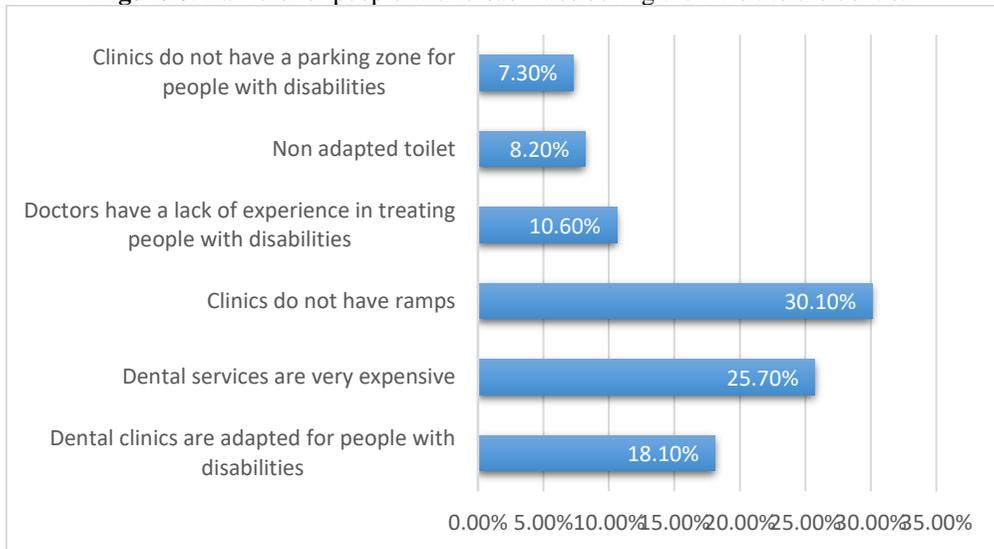
Figure 5.

35.0% of study group with disabilities have dry mouth syndrome, while 38.1% periodically complain about insomnia due to toothache. 24.4% of the respondents mentioned that deteriorated health is one of the reasons why they are rarely involved in social activities.

Eating the fruit, in 41.3% of respondents, represents a difficulty and therefore rarely takes it. 32.2% of respondents eat sugary sweet foods daily, and 28.7% several times a week. 21.9% of respondents consume tobacco regularly every day.

In deep-interviews only 18.1% of respondents confirmed that dental clinics were adapted for their requirements, while 25.7% of them identified the high prices as the barrier of getting the dental service, 30.1% lack of ramps, 10.6% lack of doctor qualifications and experience, and 4.4% indicated the problem of non-adapted rest room. Figure 6.

Figure 6. Barriers for people with disabilities during their visit to the dentist



According to the study, 63.8% of people with disabilities are not satisfied with the dental services.

The survey found that 55.0% of dental clinic managers are completely unaware of specific categories of people with disabilities and have a little information of their needs. Figure 7.

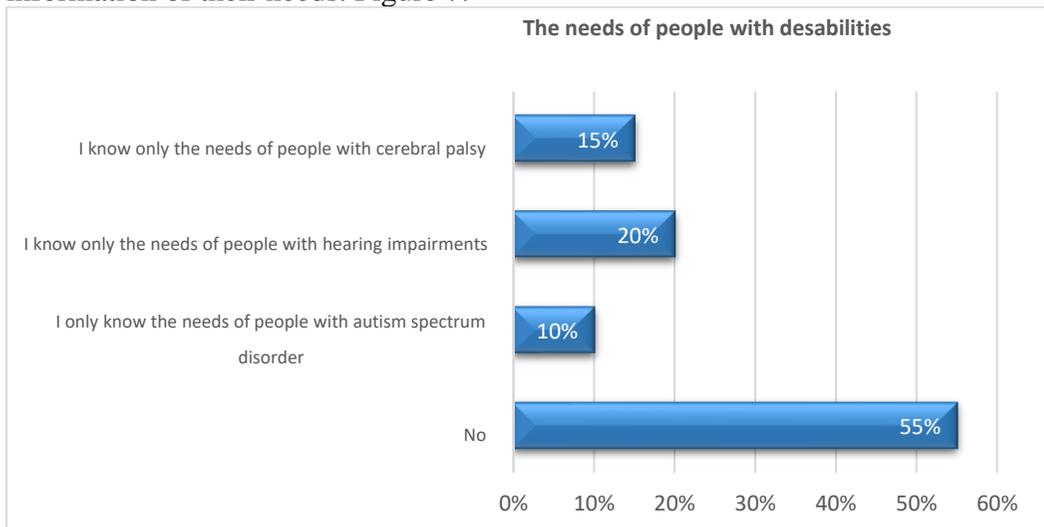


Figure 7.

Only 25% of dental clinic managers believe that their clinic is adapted for people with disabilities. Figure 8.

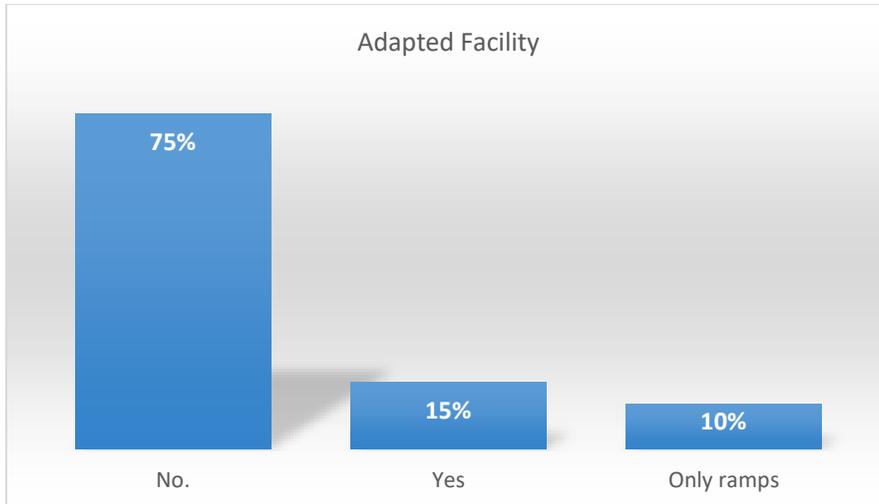


Figure 8.

50.0% of clinics do not use positive discrimination to treat them, while 75.0% think their clinics are not adapted to the perfect dental care of such individuals.

This study showed that people with disabilities do not receive comprehensive dental care. One of the limiting factors was the high prices of dental services (73%), followed by non-adapted dental clinics (65%) and less qualification of dentists in this area (94%).

None of the managers of the surveyed clinics has planned a special course for dentists to improve the dental services for patients with disabilities, nor they plan to do that in the near future.

Discussion

Caries and periodontal disease are associated with poor oral hygiene. Not surprisingly, oral diseases are widespread in people with disabilities. It is difficult for them to do routine oral hygiene, that requires the constant involvement of family members, guardians (Mandasari et al. 2021; Teo et al. 2020; Cancio V. et al. 2018; Faker K. et al. 2019).

The people with disabilities has less access to dental clinics for prevention measures as well as fewer dental restorations and scheduled visits. The studies show that people with disabilities have a large number of extracted teeth, and take appointments with dentists mostly due to the pain. In this regard, dentists are ready to be actively involved in continuing medical education training. Also, a big role is played by tele dentistry, which is a significant benefit for the dental services of people with disabilities.

This issue is of significant importance and requires using the complex approach. Each disabled individual requires an individual selection of

procedures by the dentist. Maximum involvement and awareness of family members or guardians about mastering routine oral care habits of people with disabilities and their use are essential.

According to the data provided by the World Health Organization, the number of people with disabilities worldwide is increasing, and, consequently, the introduction of special needs dentistry as a mandatory specialty will increase significantly in the future.

Conclusion

As a result of the conducted research, the oral health of people with disabilities in Georgia is unsatisfactory. The study outlined the impact of diet on oral health. Routine oral procedures are not daily performed by people with disabilities, also their visits to dentists are usually unplanned, conducted only in case of severe pain.

According to the presented results, it is desirable to develop and implement special care dentistry as a compulsory educational discipline in dentistry educational programs. The concept of evidence-based dentistry shall be actively used, which will create a fundamental basis for the use of personalized approaches to the treatment of people with disabilities in the future.

This research is ongoing and the results may change in part after the study is completed, although the results may already indicate some findings:

- It is recommended to introduce "Special Care Dentistry" as the educational direction in higher dental education programs, which will ensure the provision of comprehensive dental services for people with disabilities as a result of the development of competencies at a given level of education;
- It is recommended to prepare special guidelines for people with disabilities on routine oral health care and nutrition;
- It is recommended to prepare a legislative initiative, which will oblige dental clinics to plan and implement specific training courses for the practitioner dentists, which will improve the accessibility and quality of dental services for people with disabilities.

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