Prevalence of oral diseases and availability of their treatment in Georgia

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Abstract

Oral diseases are widespread diseases in the modern world. This problem is quite relevant in Georgia, where 94.2% of the population suffers from some kind of oral disease. 93.7% of interviewed women and 95.3% of men have symptoms of oral diseases. The rate of prevalence of oral diseases in different age groups also varies within 90-95%. It varies from 91.2% to 95.8% by regions. Therefore, its treatment and prevention are important nowadays. However, the majority of the population (44.9% of people with oral diseases) cannot afford to visit a dentist due to low income. According to the survey, when asked to respondents, what is the main reason for not visiting to the dentist, they answer the lack of money needed for treatment. 8.9% of respondents believe that dental services are fully accessible in Georgia, 14.4% think that they are more accessible than inaccessible; 25.7% believe that there is an average level of accessibility; 34.2% consider it more inaccessible than accessible and 16.8% think it is fully inaccessible.

Keywords

Oral diseases, accessibility of dental services, statistical survey.

Introduction

The prevalence of oral diseases and determining the availability of their treatment is very relevant in Georgia today. However, there are no exact statistics in this direction. There are only partial studies (some studies are limited only to the adult population, and some are only to the city of Tbilisi), and they are mainly presented in dissertations. This is what led us to conduct a comprehensive study in Georgia, which included all regions and all age groups in the country as a whole.

Georgia is among one of the low-income countries. The majority of the population does not have access to dental services. Poverty and low incomes are also reflected in the inability to receive proper treatment for oral diseases.

Materials and methods

The purpose of the survey was to determine the prevalence of oral cavity diseases (dental caries, gum disease, etc.) and the availability of their treatment in Georgia.

We used the following methods in the research: statistical observation method (the method of sample survey), statistical grouping, frequency distributions (relative and cumulative frequency), crosstabulation, statistical graphs, non-parametric statistical criterion for testing of hypotheses (chi-square criterion).
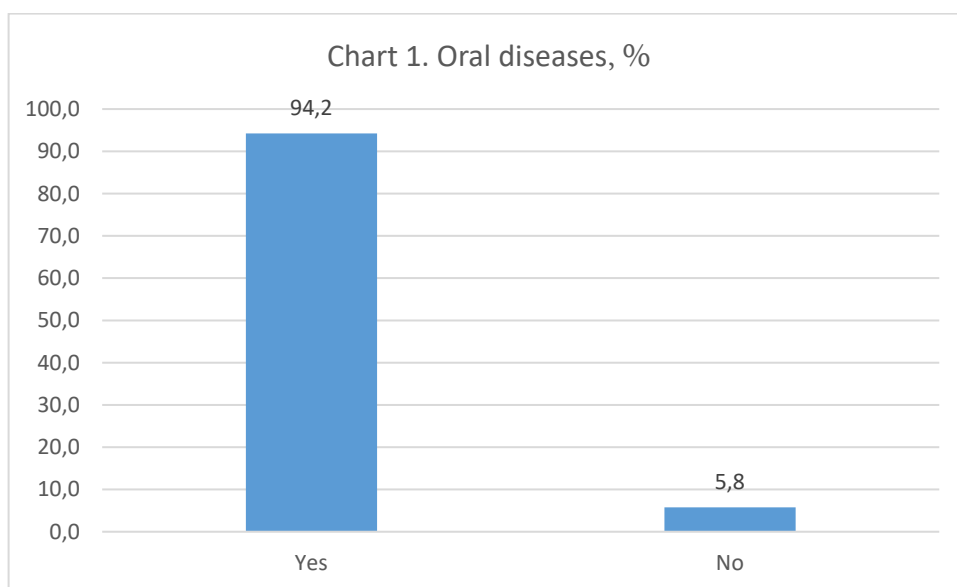
The research was conducted in May 2023. 1023 respondents were interviewed in the survey. The survey covered the population of all ages and sexes of all regions of Georgia. Data were processed in the statistical software package IBM SPSS Statistics 26.

Discussion of obtained results

As a result of the research, it was revealed that 94.2% of the population of Georgia has some kind of oral cavity disease. When asked if you have any kind of oral disease, 964 people answered "yes" and 59 people answered "no".
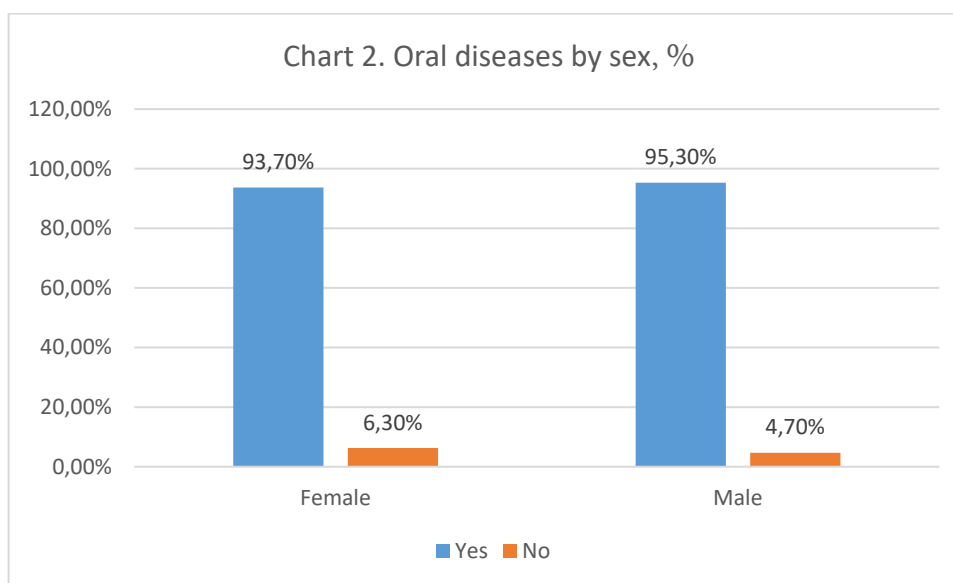
Table 1. Oral diseases

		Frequency	Percent	Valid Percent	Cumulative Percent
No	Yes	964	94.2	94.2	94.2
	No	59	5.8	5.8	100.0
	Total	1023	100.0	100.0	

Chart 1. Oral diseases, %

Oral diseases are about equally common in women and men. 93.7% of the interviewed women have symptoms of the disease, while the figure for men is 95.3%. The table and graph below confirm the above.

Table 2. Oral diseases by sex

| | | Oral diseases | | |
		Yes	No	Total
	Female	93.7%	6.3%	100.0%
	Male	95.3%	4.7%	100.0%
Total		94.2%	5.8%	100.0%

Chart 2. Oral diseases by sex, %

	Female	Male
Yes	93,70%	95,30%
No	6,30%	4,70%

According to the results of the survey, the spread of oral diseases by regions is almost similar to each other (despite slight differences) and can be presented as follows:

    Tbilisi - 95.8%

    A.R. of Adjara - 94.7%

    Guria - 91.3%

    Imereti - 92.9%

    Kakheti - 93.5%

    Mtskheta-Mtianeti 91.2%

    Racha-Lechkhumi and Kvemo Svaneti - 92.5%

    Samegrelo-Zemo Svaneti - 93.6%

    Samtskhe-Javakheti - 91.7%

    Kvemo Kartli - 94.8%

    Shida Kartli - 93.2%

According to age groups, the prevalence of oral cavity diseases is as follows: under 20 years - 92.1%, 21-45 years. - 94.5%, and 46 years and above - 95.8%.

The results of the survey are also interesting from the point of view of access to dental services.

The question "how accessible dental services are in Georgia", the answers are as follows:

    Fully accessible - 8.9%

    More accessible than inaccessible - 14.4%

    Average level of accessibility - 25.7%
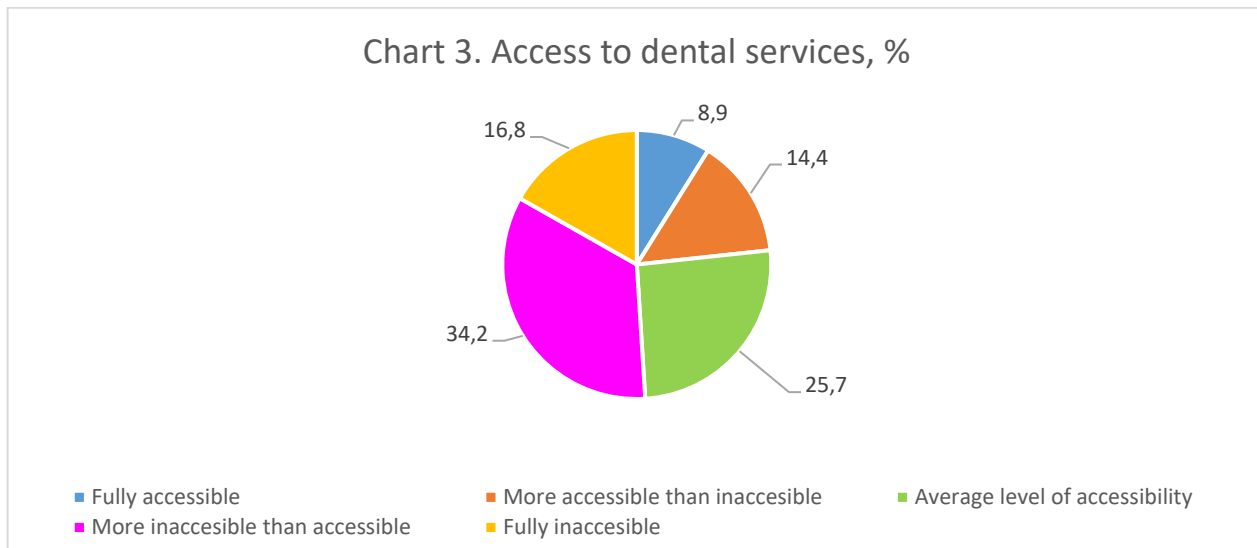
    More inaccessible than accessible - 34.2%

    Fully inaccessible - 16.8%

Table 3. Access to dental services

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully accessible	91	8.9	8.9	8.9
	More accessible than inaccessible	147	14.4	14.4	23.3
	Average level of accessibility	263	25.7	25.7	49.0
	More inaccessible than accessible	350	34.2	34.2	83.2
	Fully inaccessible	172	16.8	16.8	100.0
	Total	1023	100.0	100.0	

The table shows that, more than half of the population does not have access to these services and remains without treatment.

The availability of dental services is made more visible by the chart below.

Chart 3. Access to dental services, %

- Fully accessible
- More accessible than inaccesible
- Average level of accessibility
- More inaccesible than accessible
- Fully inaccesible

Dental services are available mainly to the employed, but remain largely unaffordable to the majority of the unemployed. This is confirmed by our survey data.

Table 4. Accessibility of dental services by employed and unemployed

	Accessibility of dental services					
	Fully accessible	More accessible than inaccessible	Average level of accessibility	More inaccessible than accessible	Fully inaccessible	Total
employed	14.8%	24.1%	25.9%	25.9%	9.3%	100.0%
unemployed	1.0%	1.3%	25.6%	36.4%	35.7%	100.0%
Total	10.2%	16.5%	25.8%	29.4%	18.1%	100.0%

To confirm whether there is a statistically significant difference in access to dental services between the employed and the unemployed, we used the chi-square test of hypotheses (Table 5).

Table 5. Chi-square test

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	182.829[a]	4	.000
Likelihood Ratio	217.461	4	.000

As can be seen from the table, the significance level α is equal to 0.000, which is much less than the preselected significance level of 0.05. Thus, we can conclude that there is a significant statistical difference in the availability of dental services between the employed and the unemployed.

Conclusions

The final conclusion is as follows: The prevalence of oral diseases in Georgia is quite high. 94.2% of the population is suffering from this disease. 93.7% of women and 95.3% of men have symptoms of oral cavity disease. The rate of prevalence of oral cavity diseases in different age ranges also varies within 90-95%. It varies from 91.2% to 95.8% by regions of Georgia. Therefore, its treatment and

prevention measures are important. However, the majority of the population (44.9% of patients) cannot afford to visit a dentist due to low income.

8.9% of respondents believe that dental services are completely available in Georgia; According to 14.4%, it is more accessible than unavailable; 25.7% believe that there is an average level of accessibility; 34.2% consider it more inaccessible than accessible and 16.8% think it is completely inaccessible.

Finally, recommendations can be formulated as follows:

> ➤ Appropriate policy should be implemented in the direction of reduction of oral diseases;
> ➤ Improve access to dental services in Georgia.

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