# Prevalence of somatic and dental diseases in the adult population of Tbilisi

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DOI: 10.56580/GEOMEDI0003

## Abstract

Despite significant advances in oral health, dental diseases remain a topical and acute problem, especially in disadvantaged groups of the world population, both in developed and developing countries.

## Keywords

Dental caries, periodontal diseases

## Introduction

The most common dental diseases are dental caries and inflammatory diseases of the periodontium, in the development of which the main etiological role is assigned to microbes, although these diseases are multifactorial in nature and many local and general factors affect their occurrence and development.

Dental caries is a chronic pathological process that manifests itself after the teeth are cut, undergoing demineralization of the hard tissues of the tooth (enamel, dentin, cement) and the formation of a further defect. The cause of the carious process is specific microbes in the dental plaque: Streptococus Mutans and Lactobacillus, which ferment carbohydrates (sucrose, fructose, glucose) to form lactic acid in the plaque on the tooth surface [1-25].

## Aim and objectives of the research

The aim of the study was to determine the frequency and prevalence of dental and somatic diseases in the adult population, to study their characteristics, taking into account socio-economic, hygienic, behavioral, medical-biological and other risk factors and to develop modern approaches to preventive measures based on these factors.

Oral diseases, in particular caries and periodontal diseases [1, 2, 3, 25, 26]. Is associated with many somatic diseases. Often they are the cause of a general disease or, conversely, a manifestation of this disease in the oral cavity [1-26].

## Research material and method

The age distribution of the adult population of Tbilisi is determined by people aged 20-85 +. The whole population was divided into 3 age groups: 20-44, 45-64, 65-74 and two sex groups - women and men.

The study was conducted at the University Dental Clinic of Geomed University, where 4600 patients were examined during one year of planned admission. The study was conducted by 2 experienced practitioners - dentist accompanied by 3 residents, who collected information according to the questionnaire provided by WHO [1-26].

## Research Questionnaire

We conducted a sociological questionnaire for the study, which included questions to determine risk factors: social status and the presence of general diseases, people's attitudes towards oral hygiene habits (brushing teeth, use of dental floss and mouthwash) Easy fermentable sugar intake and dental activity of the population, tobacco smoking, consumption of meat, dairy and other products [1-26].

The oral cavity was examined under natural light using a dental mirror, dental probe, and periodontal probe (CPI) (to measure periodontal pockets).

Caries was diagnosed and registered using methods and criteria developed by WHO, and periodontal tissue examination included evaluation of the following parameters:

1. Plaque index - the presence or absence of visible plaque on any surface of the tooth
2. Stone index - the presence or absence of visible calculi around each tooth.

3. Depth of periodontal pockets - distance from the edge of the free gum to the base of the gingival cavity (measured in mm) [25-26]
4. Bleeding during probing - the presence or absence of bleeding when probing the gums around the tooth. [25 - 26]

Periodontal measurements were performed for Rumford index teeth 16, 21, 24, 36, 41, 44 including different groups of teeth [25-26]

The Oral Hygiene Index-Simplified (OHI-S), the Debris Index-Simplified (DI-S), and the Calculus Index Simplified (CI) were used to assess oral hygiene status. (S). To evaluate the indices, 6 (4 chewing and 2 frontal) tooth surfaces were examined 16 (17), 11, 26 (27), 36 (37), 31, 46 (47) [1-26].

## Research Results

The prevalence of somatic diseases was distributed (Table 1) among the study contingent:

**Table 1. Structure of somatic diseases**

| N | Type of disease | Number of patients | % |
|---|---|---|---|
| 1 | Gastrointestinal diseases | 368 | 7,8 |
| 2 | Cardiovascular diseases | 304 | 6,4 |
| 3 | Genitourinary diseases | 46 | 1,0 |
| 4 | Bone and joint diseases | 46 | 1,0 |
| 5 | Nervous system diseases | 230 | 4,9 |
| 6 | Other chronic diseases | 3726 | 78,9 |

## Examination results and conclusion

Research has shown that high prevalence of both caries and periodontal disease in the adult population. Particularly prominent are men over the age of 35, while young people are less prone to developing inflammation in periodontal tissues.

Despite the diversity of risk factors and their combined impact, we can conclude that the prevalence of inflammatory diseases of the periodontium is mostly associated with poor oral hygiene. Due to poor oral hygiene (Table 2), the inflammatory process from the gums

progresses to other tissues of the periodontium, causing tooth decay, displacement, and eventual loss.

Obtained such a result in the study of oral hygiene:

**Table 2. Structure of oral hygiene**

| N | Oral hygiene status | Number of Patients | Frequency % |
|---|---|---|---|
| 1 | Good oral hygiene | 920 | 18 |
| 2 | Satisfactory oral hygiene | 3266 | 63 |
| 3 | 1,7-2,5 Inadequate oral hygiene | 506 | 10 |
| 4 | 2,6 ≥ Poor oral hygiene | 414 | 9 |

## Reviews to Improve Dental Status

Entities should be given recommendations:

1. Reduce free sugar intake
2. Adhere to a balanced diet to prevent the development of caries and premature loss of teeth.
3. Frequent consumption of fruits and vegetables, which provides the body with minerals and vitamins and protects against the development of oral tumors.
4. Reduce and discontinue tobacco use to reduce the risk of developing oral tumors, periodontal disease.
5. Maintain proper oral hygiene, and timely oral rehabilitation, which includes all necessary therapeutic, orthopedic, surgical procedures and elimination of infectious foci in the oral cavity, as oral infection, especially chronic periodontal inflammation is an important factor in the development of such general diseases. Such as cardiovascular disease (infective endocarditis).
6. Maintaining a constant level of fluoride in the oral cavity. Supply of fluoride reservoirs for caries prevention. For the supply tooth tissue provides the use of fluoridated pastes, pads, frequent consumption of fluoride-containing foods (fish, green tea) Consumption of fluoridated water, salt, milk. Prolonged use of the optimal dose of fluoride reduces the risk of developing caries in children and adults.

## Conclusion

Analysis of the study data showed that caries and periodontal disease were also highly correlated with the prevalence and intensity of somatic disease in the adult population.

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