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### The analysis of the health state of an oral cavity in patients with diseases of gastrointestinal tract

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The article presents the results of the analysis of hygiene of an oral cavity 206 patients with diseases of the gastrointestinal tract and 96 persons without concomitant somatic pathology, according to the results of the Fedorov-Volodkina, API (Large) indices and Silness-Loe index. It is proved that in persons with disorders of the gastrointestinal tract, values of mentioned indexes are significantly higher than in the examined of a comparative group. This tendency emphasizes the negative impact of somatic pathology on the bodies and tissues of the oral cavity, depending on the age of patients and on the duration of somatic diseases.

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**Keyword:** The health state of an oral cavity, Gastrointestinal tract, Diseases of parodont tissues.

#### 1. Introduction

Primary prevention is one of the main fields of dentistry, which relevance is connected with the increase of a dental caries and inflammatory periodontal diseases in different regions of our country. As for the etiology of the diseases of parodont tissues, according to most authors the occlusion pathology is one of the factors contributing to the development of this pathology as well as the anatomy of the tooth-jaw system (ahead of the mouth, bridles, epithelial bands).

The next starting point in the development of these diseases are dental deposits (dental plaque, calculus). Most of the authors indicate a direct correlation between the number of dental deposits, personal oral hygiene and the state of periodontal tissues.

Since the emergence of a dental caries and inflammatory periodontal disease associated with a soft plaque, it is proved that rational health care for the oral cavity is seen as a necessary

component of the etiotropic prevention of a dental caries and periodontal diseases.

There are several methods to ensure the oral hygiene today. Attention is paid to the interdental spaces cleaning, the professional oral hygiene, the use of fluoride toothpastes and remineralize therapy. It is difficult for consumer to understand the range of of imported and domestic products for support of the hygiene of an oral cavity. Their own choices of hygienic means patients do, focusing on a promotional message of manufacturing companies and price. In this case the most attractive are hygienic products, declared by producers as "whitening". Advertising convinces us that care for their teeth do not need to make any effort because care products are so effective that it will do everything for us, and the lack of information about the mechanisms of action of these funds, the recommendations for their practical application proves that with their help it

is impossible to guarantee the efficacy and safety of brushing.

Therefore, the number of works devoted to this subject constantly is growing, but, unfortunately, a little attention is accented on the features of hygienic care of the oral cavity in patients with the diseases of internal organs.

At the same time, the state of the oral cavity in patients with pathology of the digestive system, does not allow to approach the selection of hygiene principle of "like-not like it", it is a necessary clinically meaningful approach to the solution of this issue as an important part of the treatment and the preventive dental interventions in this category of patients.

The aim of the research is to study the health state of an oral cavity in patients with the pathology of the gastrointestinal tract.

## 2. Materials and methods

With the aim of studying the features of clinical course of the parodont disease in persons with diseases of the gastrointestinal tract, 206 patients, passed treatment in the sanatorium "Prolisok" in Morshyn, Lviv region (the main group) were examined. The comparison group included 94 persons, applied for a dental care to the dental clinic in Morshyn and had no a history of concomitant somatic diseases. The survey results

reflected in a specially designed map of the examination of patients. The analysis of the obtained data were taken into account: age, age group (according to the instructions of the WHO), nosologic unit gastrointestinal tract, the duration of medical and dental diseases. Diagnosis of periodontal disease (RFP) objective using the classification F.Danilevsky (1994), paraclinical indices (PMA, PI), Schiller's test-Pisarev. The health state of an oral cavity was estimated using indexes GI (Fedorov-Volodkina, 1969), API (Large, 1994) and Silness-Loc index (1963). The obtained results were processed statistically using Statistica 10.0 (StatSoft, Inc., USA).

## 3. Results of the investigation and their discussion

The efficacy of hygiene oral care verified using the index estimates of the state of hygiene of an oral cavity.

According to the index Fedorov-Volodkina, effective care for the oral cavity (1.1-1.5 points) observed in (10.19±2.11) % persons of main group and in (32.98±4.85) persons in the comparison group (p<0,001); satisfactory care (1.6-2.0 points) exercised (24.27±2.99)% patients of the main group and (28.72±4.67)% in the comparison group (p<0.05) (Table 1).

**Table 1:** Assessment of the state of oral hygiene in study groups by the index Fedorov-Volodkina

Index Fedorov-Volodkina	Main group (n=206)			Comparison group (n=94)	
	Absolute number	%	P	Absolute number	%
1.1-1.5	21	10.19±2.11	<0,01	31	32.98±4.85
1.6-2.0	50	24.27±2.99	>0,05	27	28.72±4.67
2.1-2.5	66	32.04±3.25	<0,05	20	21.28±4.22
>2.6	69	33.49±3.29	<0,01	16	17.02±3.88

In most of the examined of main group prevailed unsatisfactory or bad hygienic care of the oral cavity.

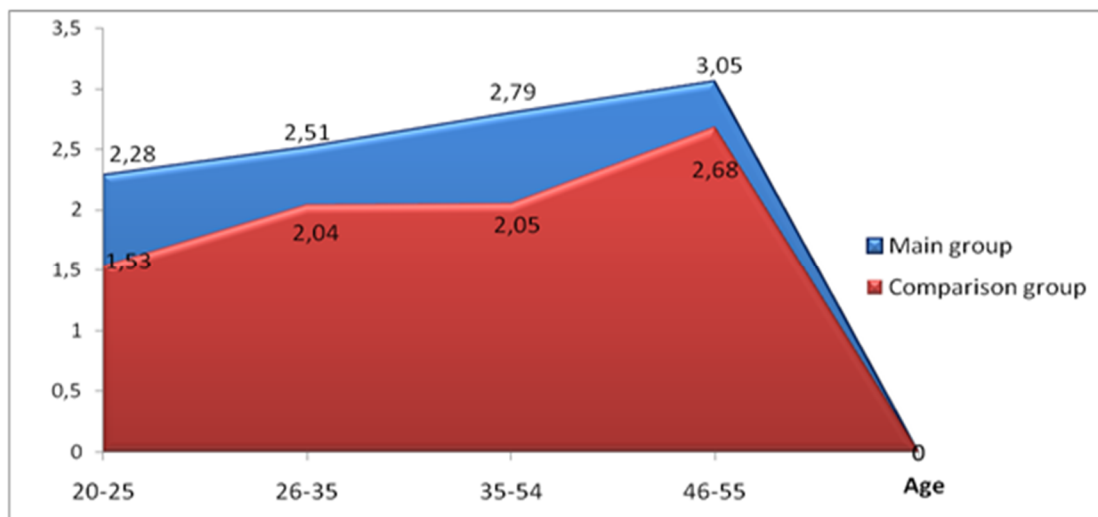
According to figure 1, it was observed deterioration of the health state of an oral cavity with the age in the examined both groups. But in all the compared age intervals, the average value of

the hygienic index in the main group was significantly higher compared with the rate in the comparison group.

The minimum value of the GI index were reported in persons from both groups, at the age of 20-25 years, but in patients with pathology of the gastrointestinal tract, it was in 1.5 times more

((2.28±0.06) against (1.53±0.08), p<0.01). Increasing with age, the maximum value of the GI index observed in the older age group (46-55 years): (3.05±0.09) – in patients of main group against (2.68±0.12) in compared (p <0.05). On

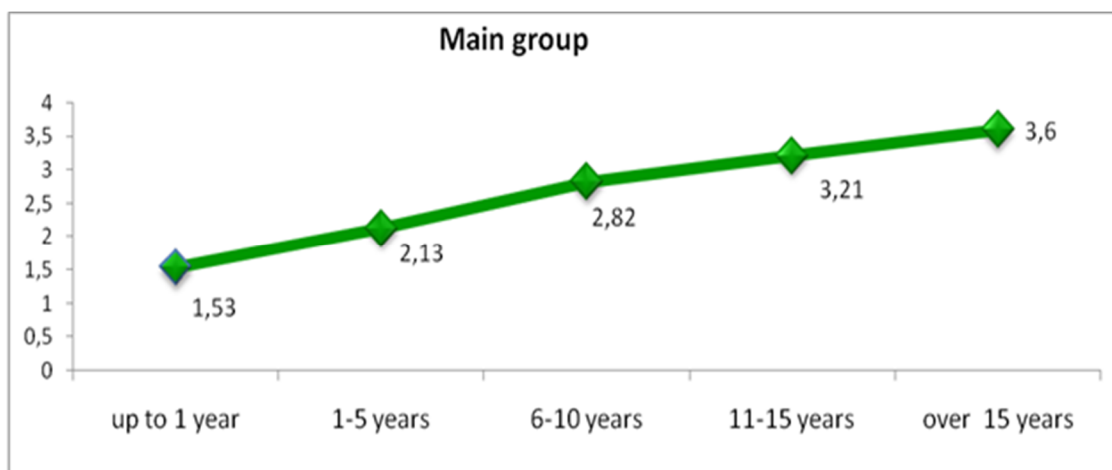
average, in patients with gastrointestinal diseases, the hygiene index was in 1.3 times higher relative to the corresponding values in the group somatically healthy individuals ((2.65±0.08) against (2.07±0.10), p<0.01).



**Fig 1:** Changes GI in the examined depending on age

With the increase of disease duration, it was examined the increase of index points in the patients of main group: from (1.53±0,61) with

duration of disease up to 1 year to (3.60±0,71) for gastrointestinal pathology more than 15 years (Figure 2).



**Fig 2:** Changes GI in the examined with different duration of somatic diseases

In patients of the main group, aged 20-35, noted a sufficient level of the oral hygiene by the API index ((38.41±2.26) % and (69.18±2.21) %), while their peers in the group of comparison, the index value was defined as the optimum level of oral

hygiene. In this age interval, the Silness-Loe index, in patients of the main group was, on average, in 2.3 times higher in relation to data in the comparison group ((2.71±0.14) against (1.18±0.11), (p<0.01)).

Aged 36-55 years, in patients of the main group were determined by a rapid increase in the index values API: from  $(72.24 \pm 2.25)\%$ , aged 36-45 years to  $(81.92 \pm 2.26)\%$ , in the age interval 46-55 years, and the resulting values are allowed interpretation of the state of hygiene oral cavity as unsatisfactory. In persons of the comparative group in older groups, the index value of the API answered satisfactory level of oral hygiene. Index data Silness-Loe in patients of the main group of senior age categories, on average, exceeded similar than in 1.7 times  $((3.48 \pm 0.15)$  against  $(2.09 \pm 0.11)$ ).

#### 4. Conclusions

Thus, it was researched significantly worse state of the oral cavity in patients of the main group, that was confirmed index estimates, in comparison with those in the control group. This tendency is probably due not only to an insufficient level of the oral hygiene, but the presence of pathology of the gastrointestinal tract in patients of the main group.

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