

UDC 616.724-07-08-008+616.714:[616.289+616.716.4]
DOI: 10.56871/MHCO.2025.61.47.002

Medical and economic aspects of patient treatment with the diseases of temporomandibular joint in Saint Petersburg

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For citation: Ergashev MO, Makhnovsky AI, Zvonik KN, Stozharov VV, Bagnenko SF, Yaremenko AI, Ergashev ON.

Medical and economic aspects of patient treatment with the diseases of temporomandibular joint in Saint Petersburg. Medicine and Health Care Organization. 2025;10(1):23–29. (In Russian). DOI: <https://doi.org/10.56871/MHCO.2025.61.47.002>

Received: 21.01.2025

Revised: 27.02.2025

Accepted: 28.03.2025

ABSTRACT. Introduction. The prevalence of the diseases of temporomandibular joint, according to various authors, ranges from 5 to 60% cases and takes the third highest in the structure of dental morbidity in the population. **The aim of the research** is to study the medical and economic aspects of the treatment of patients with the diseases of temporomandibular joint in Saint Petersburg. **Materials and methods.** According to the registers of compulsory medical insurance accounts, a patient register was formed for the period 2015–2022, n=16,862. **The results of the study.** The proportion of cases of absence of a positive effect in outpatient treatment of patients was 14.3%, in inpatient treatment — 34.6%. The cost of compulsory medical insurance to pay for all cases medical care in outpatient settings amounted to 9,654.5 thousand rubles, in inpatient settings — 7,822.6 thousand rubles. The share of financial costs for cases of unsatisfactory treatment results was 14.0% in outpatient settings and 13.9% in inpatient settings. At the same time, the proportion of cases of absence of a positive effect after outpatient and inpatient treatment of patients had significant differences among medical organizations, due to the lack of uniform diagnostic and treatment algorithms, as well as uniform criteria for evaluating treatment results. **Conclusion.** Thus, it is advisable to develop and approve Methodological Recommendations for providing medical care to patients with the diseases of temporomandibular joint with a routing scheme, examination and treatment algorithms, and criteria for evaluating the results of medical care.

KEYWORDS: diseases of temporomandibular joint, Kosten's syndrome

DOI: 10.56871/MHCO.2025.61.47.002

Медико-экономические аспекты лечения пациентов с болезнями височно-нижнечелюстного сустава в Санкт-Петербурге

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Для цитирования: Эргашев М.О., Махновский А.И., Звоник К.Н., Стожаров В.В., Багненко С.Ф., Яременко А.И., Эргашев О.Н. Медико-экономические аспекты лечения пациентов с болезнями височно-нижнечелюстного сустава в Санкт-Петербурге. Медицина и организация здравоохранения. 2025;10(1):23–29. DOI: <https://doi.org/10.56871/MHCO.2025.61.47.002>

Поступила: 21.01.2025

Одобрена: 27.02.2025

Принята к печати: 28.03.2025

РЕЗЮМЕ. Введение. Распространенность болезней височно-нижнечелюстного сустава, по данным разных авторов, составляет от 5 до 60% случаев и занимает третье место в структуре стоматологической заболеваемости населения. **Цель исследования** — изучить медико-экономические аспекты лечения пациентов с болезнями височно-нижнечелюстного сустава в Санкт-Петербурге. **Материалы и методы.** По данным реестров счетов обязательного медицинского страхования сформирован регистр пациентов за период 2015–2022 гг., n=16 862. **Результаты исследования.** Доля случаев отсутствия положительного эффекта при амбулаторном лечении пациентов составила 14,3%, при стационарном лечении — 34,6%. Затраты средств обязательного медицинского страхования на оплату всех случаев оказания медицинской помощи пациентам в амбулаторных условиях составили 9654,5 тыс. руб., в стационарных условиях — 7822,6 тыс. руб. Доля финансовых затрат на оплату случаев неудовлетворительных результатов лечения составила: в амбулаторных условиях — 14,0%, в стационарных условиях — 13,9%. При этом доля случаев отсутствия положительного эффекта после амбулаторного и стационарного лечения пациентов имела существенные различия среди медицинских организаций, что связано с отсутствием единых алгоритмов диагностики и лечения, а также единых критериев оценки результатов лечения. **Заключение.** Таким образом, целесообразно разработать и утвердить Методические рекомендации по оказанию медицинской помощи пациентам с болезнями височно-нижнечелюстного сустава со схемой маршрутизации, алгоритмами обследования и лечения, критериями оценки результатов оказания медицинской помощи.

КЛЮЧЕВЫЕ СЛОВА: болезни височно-нижнечелюстного сустава, синдром Костена

INTRODUCTION

Temporomandibular joint diseases (hereinafter TMJT) are a heterogeneous group of diseases affecting the temporomandibular joint, masticatory muscles, and (or) related structures [1–7]. The pain syndrome caused by them is the most common among neodon-togenic pain syndromes of the maxillofacial region.

The TMJT group (ICD-10 code — K07.6) includes:

- Costen's Syndrome;
- looseness of the temporomandibular joint;
- “clicking” jaw;
- painful temporomandibular joint dysfunction syndrome.

The prevalence of TMJT, according to different authors, ranges from 5 to 60% of cases in the population and ranks third in the structure of dental morbidity [1–7]. The financial cost of treating TMJT patients in the United States is up to 100 billion dollars per year [1].

It should be noted that the results of published epidemiologic studies do not meet the

criteria of high quality from the position of evidence-based medicine. The contradictory results of the studies are explained by the lack of unified algorithms for diagnosis, treatment, and evaluation of treatment results.

It should also be noted that to date the Russian Federation has not developed and approved:

- standard of primary medical and sanitary care for patients with TMJT;
- standard of specialized medical care for patients with TMJT;
- clinical guidelines for diagnosis and treatment of TMJT patients;
- criteria for assessing the quality of medical care for TMJT patients.

AIM

To study medical and economic aspects of outpatient and inpatient treatment of patients with TMJT in St. Petersburg.

Objectives of the study:

- 1) to form a register of TMJT patients in St. Petersburg based on the data of registers of compulsory medical insurance accounts;

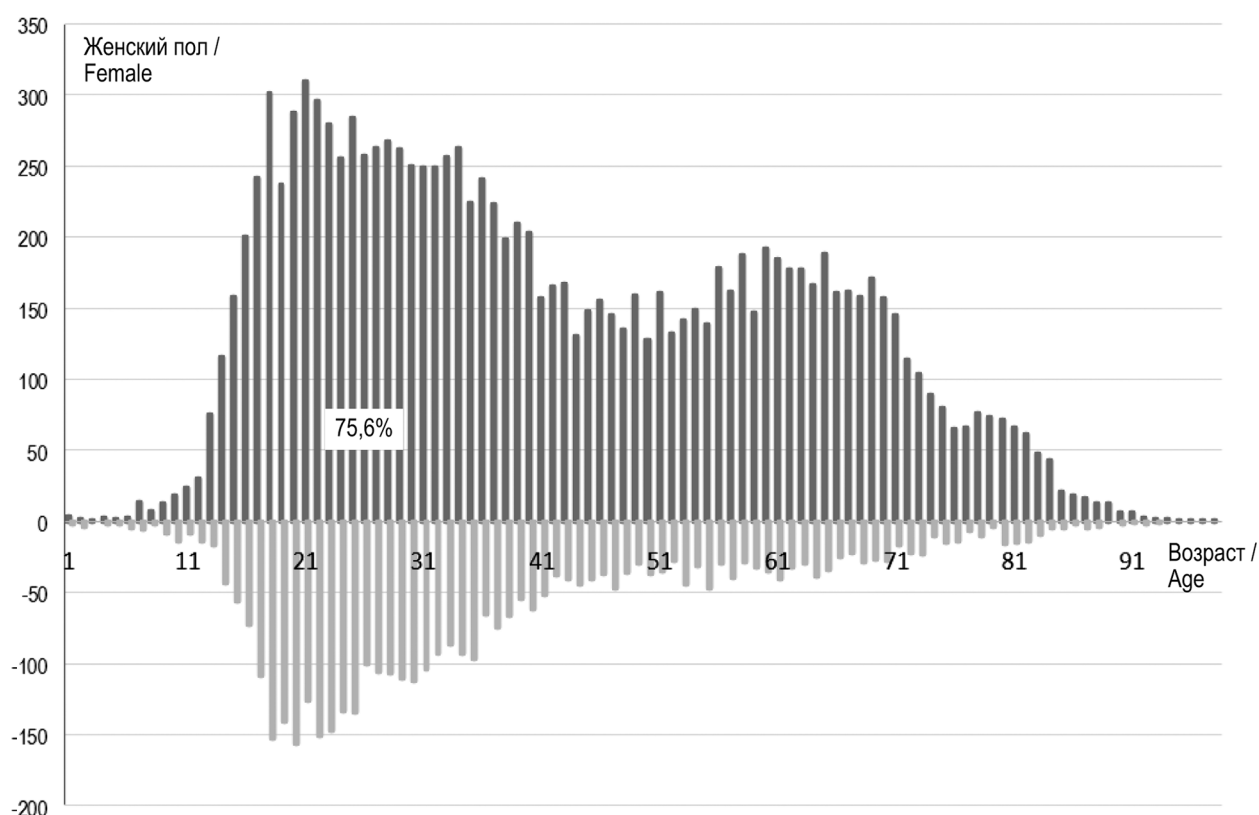


Fig. 1. Gender and age structure of patients with diseases of temporomandibular joint

Рис. 1. Половозрастная структура пациентов с болезнями височно-нижнечелюстного сустава

- 2) to study the gender and age structure of TMJT patients;
- 3) to study the results of treatment of TMJT patients in outpatient and inpatient settings;
- 4) to assess the financial costs of compulsory medical insurance funds for the provision of medical care to TMJT patients;
- 5) to develop proposals to improve the organization of medical care for TMJT patients in St. Petersburg.

MATERIALS AND METHODS

According to the data of the Territorial Compulsory Medical Insurance Fund of St. Petersburg, a register of TMJT patients for the period 01.01.2015 — 31.12.2022 (hereinafter referred to as the register) was formed. The inclusion criterion is the presence of a record with the diagnosis code K07.6 (ICD-10) in the account registers of the respective insured person.

RESULTS

The register includes information on the provision of primary and specialized medical care to 16,862 patients with TMJT:

- women — 12,761 (75.6%), the average age is 41.8 ± 19.5 years;
- men — 4101 (24.4%), the average age is 31.5 ± 17.5 .

The sex and age structure of TMJT patients is presented in Figure 1.

The number of cases of medical care in outpatient conditions amounted to 21,535. The results of outpatient treatment of TMJT patients are presented in Figure 2. The share of cases with no positive effect from the conducted outpatient treatment for the period 2015–2022 amounted to 14.3%.

The number of cases of medical care in inpatient settings amounted to 1582, of which the proportion of cases of conservative treatment of patients in inpatient conditions was 90%.

The results of inpatient treatment of TMJT patients are presented in Figure 3. The proportion of cases with no positive effect from inpatient treatment in the period 2015–2022 amounted to 34.6%.

The share of cases of no positive effect after outpatient and inpatient treatment of TMJT patients has significant differences among medical organizations, which is due to the lack of unified algorithms for diagnosis and treatment, as well as the lack of unified criteria for assessing the results of treatment.

The costs of compulsory health insurance funds for providing medical care to TMJT patients in outpatient care amounted to 9654.5 thousand rubles, in inpatient care — 7822.6 thousand rubles. The share of financial expenses for payment for cases of unsatisfactory results of treatment of TMJT patients amounted to 13.9%, including 14.0% in outpatient care and 13.9% in inpatient care (Fig. 4, 5, Table 1).

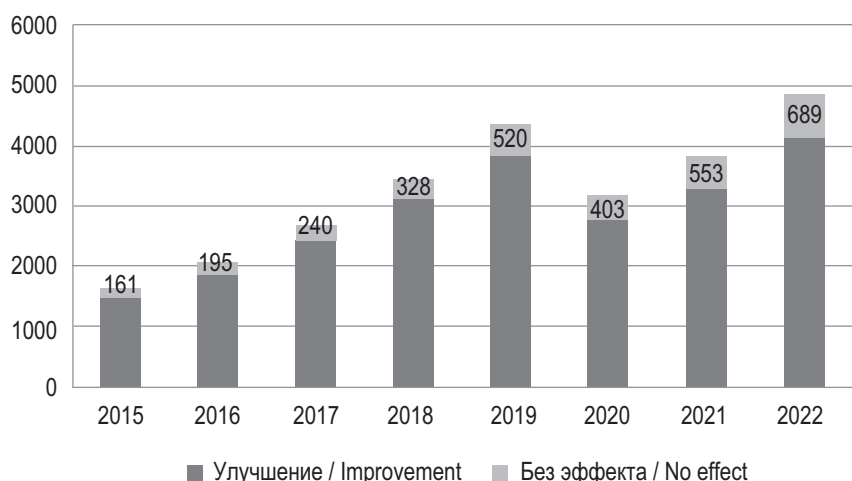


Fig. 2. Results of outpatient treatment of patients with diseases of temporomandibular joint, number of cases

Рис. 2. Результаты амбулаторного лечения пациентов с болезнями височно-нижнечелюстного сустава, количество случаев

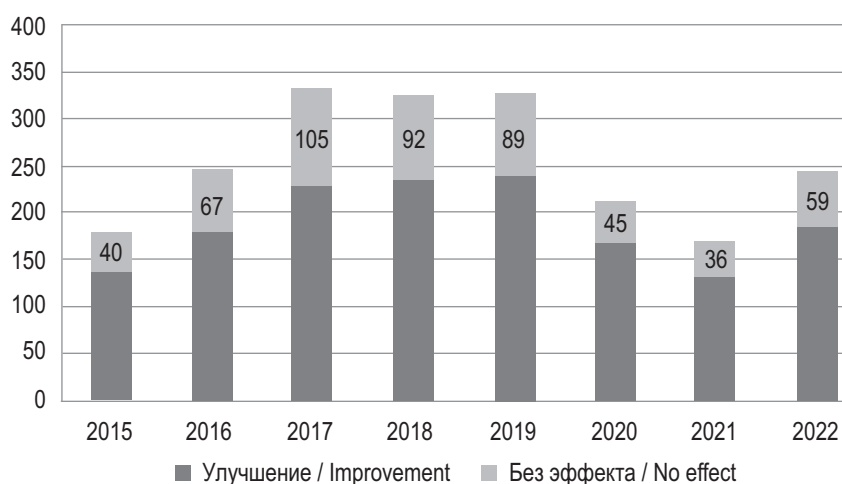


Fig. 3. Results of inpatient treatment of patients with diseases of temporomandibular joint, number of cases

Рис. 3. Результаты стационарного лечения пациентов с болезнями височно-нижнечелюстного сустава, количество случаев

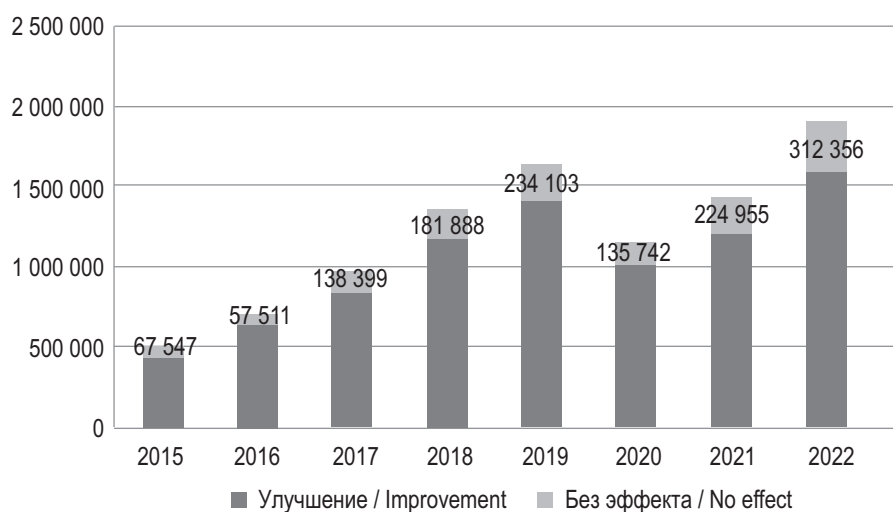


Fig. 4. Financial costs for outpatient treatment of patients with diseases of temporomandibular joint, rubles

Рис. 4. Финансовые затраты на амбулаторное лечение пациентов с болезнями височно-нижнечелюстного сустава, руб.

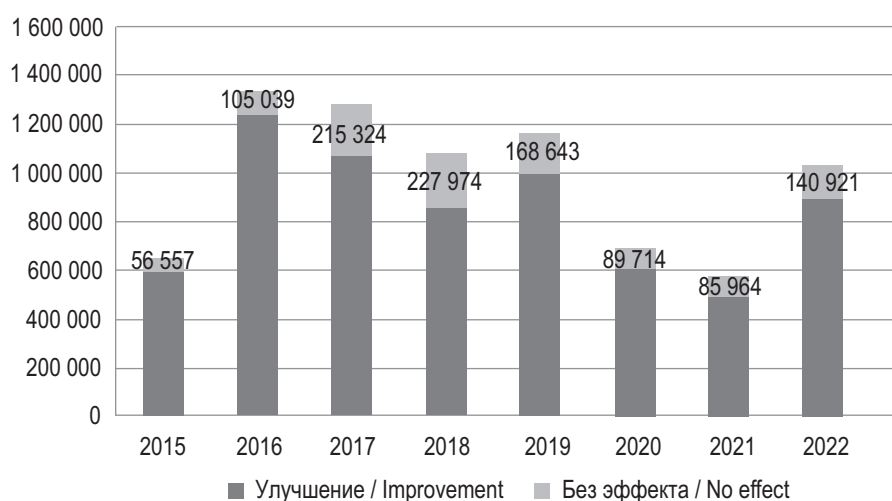


Fig. 5. Financial costs of inpatient treatment of patients with diseases of temporomandibular joint, rubles

Рис. 5. Финансовые затраты на стационарное лечение пациентов с болезнями височно-нижнечелюстного сустава, руб.

Table 1

Financial costs for medical care for patients with the diseases of temporomandibular joint in Saint Petersburg in 2015–2022, thousand rubles

Таблица 1

Финансовые затраты на оплату медицинской помощи пациентам с болезнями височно-нижнечелюстного сустава в Санкт-Петербурге в 2015–2022 гг., тыс. руб.

Условия оказания медицинской помощи / Conditions for the provision of medical care	Всего / Total	В том числе за случаи отсутствия эффекта / Including cases of lack of effect	Случаи / Cases, %
Амбулаторные / Outpatient services	9654,5	1352,5	14,0
Стационарные / Inpatient services	7822,6	1090,1	13,9
Итого / Total	17 477,1	2442,6	13,9

CONCLUSION

1. The data from the registers of compulsory health insurance accounts can be used to create a register of TMJT patients.

2. In the period 2015–2022, 16.862 patients sought medical care for TMJT in St. Petersburg under the Basic Compulsory Medical Insurance Program, including women — 12,761, or 75.6% (the mean age is 41.8 ± 19.5 years); men — 4101, or 24.4% (the mean age is 35.1 ± 17.5 years).

3. The number of cases of medical care provided to TMJT patients in outpatient conditions amounted to 21,535, in inpatient conditions to 1582. The share of cases of conservative treatment of patients in inpatient settings amounted to 90%. The costs of compulsory medical insurance funds to pay for all cases of medical care provided to patients in outpatient settings amounted to 9,654.5 thousand rubles, in inpatient conditions to 7,822.6 thousand rubles.

4. The share of cases of no positive effect in outpatient treatment of TMJT patients amounted to 14.3% (in the structure of financial costs — 14.0%). The share of cases of no positive effect in inpatient treatment of TMJT patients amounted to 34.6% (in the structure of financial costs — 13.9%). At the same time, the share of cases with no positive effect from the conducted treatment has significant differences among medical organizations, which is associated with the lack of unified criteria for assessing the results of treatment of TMJT patients.

5. It is advisable to develop and approve Methodological Recommendations on medical care for TMJT patients with a patient routing scheme, algorithms for examination and treatment, and criteria for evaluating the results of medical care.

ADDITIONAL INFORMATION

Author contribution. Thereby, all authors made a substantial contribution to the conception of the study, acquisition, analysis, interpretation of data for the work, drafting and revising the article, final approval of the version to be published was agreed to be accountable for all aspects of the study.

Competing interests. The authors declare that they have no competing interests.

Funding source. This study was not supported by any external sources of funding.

ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ

Вклад авторов. Все авторы внесли существенный вклад в разработку концепции, проведение исследования и подготовку статьи, прочли и одобрили финальную версию перед публикацией.

Конфликт интересов. Авторы декларируют отсутствие явных и потенциальных конфликтов интересов, связанных с публикацией настоящей статьи.

Источник финансирования. Авторы заявляют об отсутствии внешнего финансирования при проведении исследования.

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