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- 13.00.00 Pedagogika fanlari
- 13.00.01 Pedagogika nazariyasi. Pedagogik ta'limotlar tarixi
- 13.00.02 Ta'lim va tarbiya nazariyasi va metodikasi (sohalar bo'yicha)
- 13.00.03 Maxsus pedagogika
- 13.00.04 Jismoniy tarbiya va sport mashg'ulotlari nazariyasi va metodikasi
- 13.00.05 Kasb-hunar ta'limi nazariyasi va metodikasi
- 13.00.06 Elektron ta'lim nazariyasi va metodikasi (ta'lim sohaları va bosqichlari bo'yicha)
- 13.00.07 Ta'limda menejment
- 13.00.08 Maktabgacha ta'lim va tarbiya nazariyasi va metodikasi
- 13.00.09 Ijtimoiy pedagogika
- 07.00.00 Tarix fanlari
- 19.00.00 Psixologiya fanlari
- 01.00.00 Fizika-matematika fanlari
- 02.00.00 Kimyo fanlari
- 03.00.00 Biologiya fanlari
- 09.00.00 Falsafa fanlari
- 10.00.00 Filologiya fanlari
- 11.00.00 Geografiya fanlari

# M

# AKTABGACHA VA AKTAB TA'LIMI

Pedagogika, psixologiya fanlariga ixtisoslashgan ilmiy jurnal



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# OPTIMIZATION OF PERIODONTAL DISEASE TREATMENT TACTICS IN PATIENTS WITH CHRONIC HEPATITIS C AFTER ACHIEVING A SUSTAINED VIROLOGICAL RESPONSE

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**Abstract:** The article examines the problem of dental rehabilitation in patients who have achieved recovery from chronic hepatitis C (CHC) following treatment with direct-acting antivirals (DAAs). Despite viral elimination and the achievement of a sustained virological response (SVR), pathological changes in periodontal tissues may persist. A research design is proposed to develop a comprehensive treatment algorithm that considers local immune status and functional hepatic reserve.

**Key words:** chronic hepatitis C (CHC), direct-acting antivirals (DAAs), sustained virological response (SVR), hepatitis C virus (HCV), periodontal diseases, dental rehabilitation.

**Annotatsiya:** Maqolada to'g'ridan-to'g'ri ta'sir qiluvchi antiviral preparatlar (DAA) yordamida surunkali gepatit C (SGC) dan sog'aygan bemorlarda stomatologik rehabilitatsiya muammosi tahlil qilingan. Virusning bartaraf etilishi va barqaror virologik javob (SVR)ga erishilganiga qaramay, parodontal to'qimalarda patologik o'zgarishlar saqlanib qolishi mumkin. Lokal immun holat hamda jigar funksional rezervini inobatga olgan holda kompleks davolash algoritmini ishlab chiqishga qaratilgan tadqiqot dizayni taklif etilgan.

**Kalit so'zlar:** surunkali gepatit C (SGC), to'g'ridan-to'g'ri ta'sir qiluvchi antiviral preparatlar (DAA), barqaror virologik javob (SVR), gepatit C virusi (HCV), parodontal kasalliklar, stomatologik rehabilitatsiya.

**Аннотация:** В статье рассматривается проблема стоматологической реабилитации пациентов, излеченных от хронического гепатита С (ХГС) с применением прямых противовирусных препаратов (ПППД). Несмотря на элиминацию вируса и достижение устойчивого вирусологического ответа (УВО), патологические изменения в тканях пародонта могут сохраняться. Представлен дизайн исследования, направленный на разработку комплексного алгоритма лечения с учётом локального иммунного статуса и функционального резерва печени.

**Ключевые слова:** хронический гепатит С (ХГС), прямые противовирусные препараты (ПППД), устойчивый вирусологический ответ (УВО), вирус гепатита С (ВГС), заболевания пародонта, стоматологическая реабилитация.

## INTRODUCTION

Chronic hepatitis C (CHC) remains a global health threat, affecting approximately 58 million people worldwide. In Uzbekistan, this disease occupies a leading position among parenteral hepatitis. Modern DAA therapy has marked a breakthrough, ensuring cure rates of 95-99%.

However, the hepatitis C virus (HCV) is a systemic pathogen. Its impact on periodontal tissues is mediated through immune dysregulation, endotoxemia, and direct damage to salivary gland cells. Clinical practice indicates that even after achieving SVR, the "immunological scar" of the disease continues to sustain chronic inflammation in the oral cavity. The lack of specialized protocols for such patients leads to periodontal recurrence and tooth loss, which underscores the relevance of this study.

## LITERATURE REVIEW

Current studies (Nagao et al., 2022; Gigliotti et al., 2024) confirm that periodontal tissue lesions in CHC occur significantly more frequently than in the general population. The primary pathogenetic link is considered to be a persistent cytokine imbalance (elevated levels of IL-1 $\beta$ , IL-6, and TNF- $\alpha$ ), which triggers alveolar bone destruction.

In the DAA era, a new scientific challenge has emerged: the health status of patients post-cure. Several authors note that even after the disappearance of viral RNA from the blood, the restoration of homeostasis occurs extremely slowly. The concept of “immunological scarring” explains the persistence of a pro-inflammatory background in the oral fluid. Research emphasizes a direct correlation between the degree of liver fibrosis (METAVIR scale) and the severity of periodontitis; however, specific therapeutic strategies for the rehabilitation period remain insufficiently explored.

To improve the effectiveness of comprehensive treatment for inflammatory periodontal diseases in patients who have achieved SVR by implementing a diagnostic and preventive algorithm based on the monitoring of clinical and laboratory parameters.

## RESEARCH METHODOLOGY

A prospective randomized study has been initiated, including 150 participants divided into three groups:

- Main Group (n=60) – post-SVR patients receiving treatment according to the author’s protocol;
- Comparison Group (n=60) – post-SVR patients receiving standard periodontal treatment;
- Control Group (n=30) – healthy individuals.
- The methodological complex includes:
  - dental status – assessment of OHI-S, PMA, and PI indices, periodontal pocket depth (PPD), and bleeding on probing (BOP);
  - laboratory diagnostics – evaluation of local immunity (sIgA, lysozyme) and the cytokine profile of the oral fluid (IL-1 $\beta$ , IL-6, TNF- $\alpha$ ) using ELISA;
  - hepatological profile – liver elastography (FibroScan) according to the METAVIR scale, and biochemical parameters (ALT, AST, bilirubin, INR);
  - microbiology – PCR diagnostics of key periodontal pathogens (*P. gingivalis*, *T. denticola*, etc.).

For the first time in dental practice, periodontal tissue status will be characterized in detail during the specific “post-elimination” period of the virus. The study aims to prove that achieving SVR does not lead to automatic remission of periodontitis. Correlation links between oral inflammatory markers and the degree of liver fibrosis will be established, allowing for a differentiated approach to therapy.

## ANALYSIS AND RESULTS

It is expected that the use of a specialized algorithm will mitigate the effects of the “metabolic echo” of hepatitis C. Preliminary data suggest that the severity of liver fibrosis (F0-F4) is a significant predictor of the recovery rate of periodontal tissues. The developed protocol will include agents that minimize the systemic load on the hepatobiliary system and correct local homeostasis.

The implementation of the study results into the practice of dentists and infectious disease specialists will allow for the coordination of multidisciplinary management of patients after antiviral therapy, a reduction in the time required to arrest periodontal inflammation, and the mitigation of the risk of early tooth loss in a socially active population group recovered from parenteral hepatitis.

## CONCLUSION AND RECOMMENDATIONS

Optimizing the treatment of periodontal diseases in individuals who have recovered from CHC requires a departure from standard templates. Accounting for the immunological and biochemical characteristics of the post-SVR period will significantly improve the quality of life of patients and the overall effectiveness of dental rehabilitation.

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- 13.00.00 Pedagogika fanlari
  - 13.00.01 Pedagogika nazariyasi. Pedagogik ta'limotlar tarixi
  - 13.00.02 Ta'lim va tarbiya nazariyasi va metodikasi (sohalar bo'yicha)
  - 13.00.03 Maxsus pedagogika
  - 13.00.04 Jismoniy tarbiya va sport mashg'ulotlari nazariyasi va metodikasi
  - 13.00.05 Kasb-hunar ta'limi nazariyasi va metodikasi
  - 13.00.06 Elektron ta'lim nazariyasi va metodikasi (ta'lim sohaları va bosqichlari bo'yicha)
  - 13.00.07 Ta'limda menejment
  - 13.00.08 Maktabgacha ta'lim va tarbiya nazariyasi va metodikasi
  - 13.00.09 Ijtimoiy pedagogika
  - 07.00.00 Tarix fanlari
  - 19.00.00 Psixologiya fanlari
  - 01.00.00 Fizika-matematika fanlari
  - 02.00.00 Kimyo fanlari
  - 03.00.00 Biologiya fanlari
  - 09.00.00 Falsafa fanlari
  - 10.00.00 Filologiya fanlari
  - 11.00.00 Geografiya fanlari



# MAKTABGACHA VA MAKTAB TA'LIMI

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**Ingliz tili muharriri:** Murod Xoliyorov

**Musahhih:** Alibek Zokirov

**Sahifalovchi va dizayner:** Iskandar Islomov

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