CHAPTER 9

ACCESSIBILITY OF DENTAL SERVICES FOR PEOPLE WITH DISABILITIES: AN INTERDISCIPLINARY APPROACH TO THE PREVENTION OF CARDIOVASCULAR COMPLICATIONS

Sydor O. V.
DOI https://doi.org/10.30525/978-9934-26-693-5-9

INTRODUCTION

In contemporary scientific and clinical discourse, oral health is increasingly viewed not as an isolated component of an individual's well-being, but as an important indicator of somatic status, quality of life, and the overall level of medical care[1]. This approach becomes especially relevant in the context of cardiovascular risks, since chronic inflammatory processes in the oral cavity, periodontal lesions, persistent odontogenic infections, impaired masticatory function, and poor oral hygiene may serve as additional factors that worsen the general condition of the body, sustain systemic inflammation, and complicate the course of comorbid pathology[2].

In this sense, the prevention of dental diseases goes beyond a narrowly local clinical task and becomes part of a broader strategy for preserving public health.

This problem becomes particularly acute in the case of people with disabilities, who face barriers in access to dental care far more often than other categories of patients. These barriers are not limited to architectural inaccessibility or mobility difficulties, although these are also of great importance.

No less significant are organizational, communicative, psychological, and social obstacles that complicate or even make impossible timely visits to the dentist, preventive check-ups, regular monitoring, and full-scale treatment. In many cases, dental care for a person with a disability formally exists, yet in practice remains poorly accessible because of a non-adapted environment, the absence of trained personnel, a lack of individualized

[1] Baiju RM, Peter E, Varghese NO, Sivaram R. Oral Health and Quality of Life: Current Concepts. *J Clin Diagn Res.* 2017. Vol. 11(6) P.ZE21-ZE26. doi: 10.7860/JCDR/2017/25866.10110..

[2] Скрипников П. М., Скрипнікова Т. П., Лупаца Н. А. Стан здоров'я органів порожнини рота у внутрішньо переміщених осіб // *Український стоматологічний альманах.* 2023. № 1. С. 12–16.

approaches, or the psychological unacceptability of the treatment process itself.

In clinical practice, the consequences of such inaccessibility accumulate gradually but have a pronounced systemic character [3]. People with disabilities often experience difficulties with independent oral care, dependence on assistance from others, limited ability to maintain proper hygiene, concomitant neurological, psycho-emotional, or somatic disorders, as well as prolonged medication burden[4]. All this creates conditions for more rapid development of dental caries, chronic gingivitis, periodontitis, inflammatory lesions of the oral mucosa, chronic odontogenic foci of infection, and impaired masticatory function. In turn, these conditions cannot be regarded merely as local dental problems, because they affect nutritional patterns, the intensity of pain-related stress, the infectious and inflammatory background of the body, and may aggravate the patient's overall risk profile . For this reason, the issue of accessibility of dental services for people with disabilities should be considered not only in terms of the right to healthcare, inclusion, or healthcare organization, but also in the context of preventing cardiovascular complications. Such an approach is fundamentally interdisciplinary, since it brings together clinical dentistry, preventive medicine, cardiovascular safety, social medicine, the psychology of communication, and an inclusive model of medical support. Under current conditions, it is no longer sufficient to ask only whether a person with a disability can physically enter a dental office. Much more important is to assess whether the healthcare system is capable of providing timely, regular, adapted, and clinically adequate care that prevents not only the progression of dental pathology, but also the possible intensification of somatic risks.

The scientific significance of this issue is also determined by the fact that people with disabilities represent an extremely heterogeneous category of patients. This group includes individuals with musculoskeletal disorders, sensory impairments, intellectual disabilities, autism spectrum disorders, severe neurological diseases, chronic somatic conditions, and combined forms of functional limitation.

In each of these cases, dental care has its own specific features, and the accessibility of services is determined not only by material or spatial factors, but also by the ability of the healthcare system to adapt to the patient's particular

---

[3] Pryimak, K., Zoriy, I., Bidenko, N. Стоматологічний статус у дітей із дитячим церебральним паралічем. *Терапевтика / ім. проф. Бережницького М.М.,* № 3(1), С. 35-40. https://doi.org/10.31793/2709-7404.2022.3-1.35

[4] Ward LM, Cooper SA, Hughes-McCormack L. Oral health of adults with intellectual disabilities: a systematic review. *J Intellect Disabil Res*. 2019 Vol. 63(11) P:1359-1378. doi: 10.1111/jir.12632.

clinical, behavioral, and communicative needs[5]. For this reason, accessibility of dental services should not be interpreted in an overly simplified way. It includes physical reachability, organizational convenience, communicative clarity, psychological acceptability, the professional readiness of medical personnel, and the real possibility of receiving effective preventive and therapeutic care. In this context, it is important to emphasize that cardiovascular complications in people with disabilities often develop against the background of already existing multifactorial vulnerability. Limited physical activity, chronic stress, concomitant endocrine or neurological disorders, medication burden, dietary особенности, and difficulties in self-monitoring of health may all coexist with chronic dental pathology, creating an additional burden on the body. In such a situation, oral health ceases to be a secondary sphere and acquires the significance of one of the important components of comprehensive preventive care.

Accordingly, regular dental monitoring, early detection and elimination of infectious foci, maintenance of oral hygiene, and adapted preventive work should be regarded as part of an interdisciplinary model for preventing complications, including those of a cardiovascular nature[6].

No less important is the socio-psychological dimension of the problem. For many people with disabilities, a dental appointment is associated with pronounced emotional tension, fear, previous negative experiences, difficulties in anticipating the situation, or dependence on an accompanying person. If this is compounded by staff unpreparedness for flexible communication, haste, lack of tolerance for a different pace of interaction, or a formal attitude toward the patient, accessibility of the service decreases even when all external organizational resources are in place[7]. This is precisely why an interdisciplinary approach to this problem must encompass not only clinical and organizational mechanisms, but also communicative, psychological, and ethical ones.

Thus, the problem of accessibility of dental services for people with disabilities requires comprehensive consideration at the intersection of dentistry, public health, social medicine, and the prevention of cardiovascular risks. Its relevance stems from the fact that the inaccessibility or untimeliness

---

5 Vahdati, A.; Khadivi, G.; Ghorbani, Z. Accessibility of Special Care Dentistry Across Countries: A Scoping Review. *Healthcare* 2024, Vol. 12, P. 2376. https://doi.org/10.3390/healthcare12232376

6 Lockhart, P., Chu, V., Zhao, J. et al. (2023) Oral hygiene and infective endocarditis: a case control study. *Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology,* Vol. 136 (3). pp. 333-342. https://doi.org/10.1016/j.oooo.2023.02.020

7 Литовченко В. П., Литовченко С. В. Безбар'єрність стоматологічної допомоги пацієнтам з особливими комунікативними потребами: організаційний та психологічний аспекти. *Науковий вісник Ужгородського національного університету*, 2022. № 1. С. 131-139. https://doi.org/10.32782/psy-visnyk/2022.1.25

of dental care results not only in deterioration of local oral status, but may also become part of a broader pathogenetic and social chain that negatively affects a person's general health.

In this regard, the development of theoretical and practical approaches to ensuring genuinely accessible dental care for people with disabilities as a component of interdisciplinary prevention of cardiovascular complications is of particular importance.

The aim of the article is to provide a theoretical substantiation of the significance of accessibility of dental services for people with disabilities as a component of an interdisciplinary approach to the prevention of cardiovascular complications[8].

To achieve this aim, the following objectives were defined: to analyze theoretical approaches to understanding accessibility of dental care for people with disabilities; to characterize the relationship between oral health, general somatic condition, and cardiovascular risks; to identify clinical, socio-psychological, and organizational barriers that complicate access to dental care for people with disabilities; and to substantiate interdisciplinary mechanisms for improving accessibility of dental services as a direction of prevention of cardiovascular complications.

1. Theoretical and Methodological Foundations for Studying the Accessibility of Dental Services for People with Disabilities in the Context of Preserving Somatic Health

In modern healthcare, the issue of accessibility of medical services has long ceased to be viewed solely through the narrow lens of physical availability of institutions or the formal presence of medical specialists. This is especially true in dentistry, where the very possibility of receiving care depends not only on the existence of a dental office, equipment, or a qualified practitioner, but also on whether the entire system of care is able to respond adequately to the real needs of a particular patient[9]. In the case of people with disabilities, this issue acquires particular complexity, because accessibility is determined by a combination of architectural, organizational, communicative, psychological, clinical, and social factors.

For that reason, the study of accessibility of dental services for this population requires a broad methodological approach that goes beyond

[8] Falconer JL, Rajani R, Androshchuk V. Exploring links between oral health and infective endocarditis. *Front Oral Health.* 2024. Vol. 2. P 5:1426903. doi: 10.3389/froh.2024.1426903.

[9] Balkaran R, Esnard T, Perry M, Virtanen JI. Challenges experienced in the dental care of persons with special needs: a qualitative study among health professionals and caregivers. *BMC Oral Health.* 2022 Vol. 9 P.:116. doi: 10.1186/s12903-022-02153-x.

the traditional understanding of dental treatment as a narrowly clinical intervention.

At the theoretical level, accessibility of healthcare should be understood as a multidimensional category reflecting the real ability of a person to obtain timely, acceptable, understandable, safe, and effective medical care. In relation to dentistry, this means not merely the possibility of making an appointment or physically entering a clinic, but the practical ability to complete the entire route of care: from the decision to seek help and the organization of a visit to examination, prevention, treatment, follow-up, and long-term support. For people with disabilities, each stage of this route may involve specific barriers that reduce the actual availability of care even where services formally exist. Thus, accessibility must be interpreted not as a declarative characteristic of the healthcare system, but as a practical result of its readiness to adapt to patients with different functional capacities and different patterns of interaction with the medical environment.

This interpretation is closely linked to the contemporary understanding of disability itself. Today, disability is no longer regarded exclusively as an individual medical deficit or a condition limited to bodily impairment. Increasingly, it is understood through a broader biopsychosocial framework, according to which restrictions in functioning arise not only from a person's health condition, but also from the mismatch between that condition and the surrounding environment[10].

Applied to dental care, this means that difficulties in obtaining treatment are often caused not solely by the patient's diagnosis, but by the inability of the healthcare setting to accommodate specific physical, sensory, cognitive, communicative, or behavioral needs. In this sense, inaccessibility is not simply the patient's problem; it is also an indicator of insufficient inclusiveness and insufficient clinical flexibility of the medical system itself. From a methodological standpoint, such an approach is critically important because it shifts the analytical focus. Instead of asking why a particular patient does not receive dental care, it becomes necessary to ask what features of the medical environment, professional training, organization of services, or communication practices make this care difficult or unattainable[11]. This change in perspective is especially significant in the context of people with disabilities, who are often viewed in healthcare through the logic of "complexity" or "exceptionality."

---

[10] Schneidert M, Hurst R, Miller J. The role of environment in the International Classification of Functioning, Disability and Health (ICF). *Disabil Rehabil.* 2003 Vol. 25. P.:588-95. doi: 10.1080/0963828031000137090.

[11] Hansen C, Curl C, Geddis-Regan A. Barriers to the provision of oral health care for people with disabilities. *BDJ In Pract.* 2021. Vol.34(3) P.:30–4. doi: 10.1038/s41404-021-0675-x.

In reality, however, the decisive issue is not the abstract complexity of the patient, but the extent to which the healthcare system is capable of delivering individualized, predictable, and clinically competent support[12].

Within this framework, accessibility of dental care should be considered as a structure comprising several interrelated dimensions. The first is physical accessibility, which includes barrier-free entry to the building, internal mobility, suitable sanitary conditions, the possibility of transportation, and the ability to use dental equipment safely and comfortably.

For a person with a musculoskeletal disorder, these factors may be decisive, because even a high-quality clinic remains functionally inaccessible if entry, movement, transfer, or positioning in the dental chair is not feasible. However, limiting accessibility to architecture alone would be a serious oversimplification[13].

A second important dimension is organizational accessibility. This includes the logic of appointment scheduling, waiting times, flexibility of visit duration, the possibility of accompanying persons being present, the coordination of dental visits with other medical needs, and the overall ability of the service to accommodate patients whose participation in routine clinical flow may require more time and more individualized planning. For many people with disabilities, the standard format of outpatient reception is poorly suited to their functional reality. Long waiting times, rigid schedules, excessive noise, multiple bureaucratic steps, or the requirement to attend repeated visits without continuity of support can become obstacles no less serious than stairs at the entrance.

A third dimension is communicative accessibility. In dentistry, communication is not a secondary issue but an integral component of diagnosis, informed cooperation, preventive counseling, and treatment success. For patients with sensory impairments, intellectual disabilities, autism spectrum conditions, neurological disorders, speech difficulties, or severe anxiety, accessibility depends greatly on whether the dentist is able to explain procedures clearly, adapt the pace and form of interaction, tolerate pauses, observe non-verbal reactions, and build trust gradually.

If the information provided by the doctor is incomprehensible, too fast, too abstract, or emotionally cold, the patient may remain formally present in the clinic but be effectively excluded from meaningful care.

---

[12] Соколова І. І. Перешкоди отримання медичної та стоматологічної допомоги у пацієнтів із втратою слуху. *Актуальні проблеми сучасної медицини*. 2023. Т. 23, Вип. 4. – С. 318–322.

[13] da Rosa SV, Moysés SJ, Theis LC, Barriers in Access to Dental Services Hindering the Treatment of People with Disabilities: A Systematic Review. *Int J Dent.* 2020. Vol. 23. P.:9074618. doi: 10.1155/2020/9074618.

Closely related to this is psychological accessibility. A dental visit is often stressful even for an average patient, but for a person with a disability it may represent a far more complex emotional event. Fear of pain, previous traumatic experiences, difficulties with unpredictability, sensory overload, dependency on caregivers, or shame associated with one's health condition may all intensify the emotional burden of treatment. Therefore, accessibility also depends on whether the dental environment feels psychologically safe[14].

Calm communication, predictable sequences of action, tolerance for a different tempo of cooperation, respect for personal dignity, and the absence of irritation or haste on the part of the staff are not simply matters of etiquette; they are structural elements of actual access to care.

Another essential dimension is professional accessibility, which reflects the readiness of dental personnel to work with patients who have complex medical, communicative, and behavioral characteristics. In many systems, the formal availability of dental care is undermined by the fact that practitioners do not feel sufficiently prepared to treat people with disabilities[15]. This may result in avoidance, referral without clear justification, reduction of the treatment plan to minimal interventions, or a rigid insistence on standard protocols that are poorly suited to the patient's needs. From this perspective, accessibility depends not only on infrastructure but also on the level of professional education, interdisciplinary knowledge, ethical maturity, and clinical adaptability of the dentist.

These dimensions together demonstrate that accessibility of dental services is a systemic characteristic rather than a purely technical one. It reflects how well the healthcare system integrates the principles of inclusion into actual clinical practice.

This is especially relevant in the broader context of somatic health preservation. For a long time, oral health was often perceived as a separate, relatively narrow field, insufficiently connected to general medicine. Yet contemporary scientific understanding increasingly emphasizes that chronic oral pathology cannot be reduced to local discomfort or cosmetic problems. The oral cavity is a biologically active environment, and chronic inflammatory processes within it may have systemic significance, particularly when they remain untreated over long periods[16].

---

[14] Fallea A, Zuccarello R, Roccella M, Sensory-Adapted Dental Environment for the Treatment of Patients with Autism Spectrum Disorder. *Children (Basel).* 2022 Vol.9(3)P.:393. doi: 10.3390/children9030393.

[15] Alumran A, Almulhim L, Almolhim B, Preparedness and willingness of dental care providers to treat patients with special needs. *Clin Cosmet Investig Dent.* 2018. Vol.10. P.:231-236. doi: 10.2147/CCIDE.S178114.

[16] Gaetano I, Santonocito S., Lupi S. Periodontal Health and Disease in the Context of Systemic Diseases, *Mediators of Inflammation,* 2023, Vol. 9, P. 19, https://doi.org/10.1155/2023/9720947

This point is of particular relevance when discussing people with disabilities. Many of them are at elevated risk of poor oral health due to difficulties with self-care, dependence on assistance from caregivers, altered dietary habits, medication effects, neurological impairment, reduced mobility, or limited access to regular preventive visits. As a result, they are more likely to develop persistent plaque accumulation, untreated caries, gingival inflammation, periodontitis, traumatic lesions, chronic foci of infection, and impaired chewing function. These conditions are not clinically neutral. Chronic inflammation in the oral cavity contributes to a prolonged inflammatory burden on the body, may affect nutritional adequacy, may increase pain-related stress, and may complicate the course of coexisting diseases[17].

For that reason, the methodological framework of this study must include a systemic understanding of health. Somatic well-being cannot be preserved if dentistry is removed from the broader model of preventive care. In people with disabilities, this interconnection becomes even more evident because local oral problems often develop against a background of already existing vulnerability: reduced physical activity, chronic neurological conditions, endocrine disorders, psycho-emotional stress, cardiovascular risk factors, and long-term pharmacotherapy.

Thus, dentistry should not be interpreted as an isolated service but as one of the components of an integrated support system aimed at preserving overall health.

This logic makes it possible to formulate a central conceptual position of the present study: accessibility of dental services for people with disabilities should be regarded not only as an issue of inclusion and healthcare rights, but also as an element of broader somatic prevention[18]. In other words, timely and genuinely accessible dental care is important not merely because it improves oral status, but because it may reduce the long-term burden of chronic inflammation, facilitate better nutrition, decrease persistent pain and stress, support better general functioning, and thereby contribute to the prevention of systemic complications. Within the framework of the present monograph, this perspective is especially valuable because it connects dental care with cardiovascular health and with the broader agenda of public health protection.

Such an interpretation requires an interdisciplinary methodological approach. Dentistry alone is not sufficient to explain the full complexity of accessibility for

---

[17] Ward LM, Cooper SA, Hughes-McCormack L. Oral health of adults with intellectual disabilities: a systematic review. *J Intellect Disabil Res*. 2019 Vol. 63(11) P.:1359-1378. doi: 10.1111/jir.12632.

[18] Сухомейло Д.О., Рейзвіх О.Е., Шнайдер С.А., Христова М.Т. Сучасні тенденції профілактики та лікування стоматологічних захворювань у дітей з патологією опорно-рухового апарату. *Вісник стоматології.* 2024. №2. С.132-139. DOI: https://doi.org/10.35220/2078-8916-2024-52-2.19.

people with disabilities. The problem must be examined at the intersection of clinical dentistry, social medicine, public health, rehabilitation, communication psychology, medical ethics, and healthcare organization. Clinical dentistry contributes knowledge about oral disease mechanisms, prevention, diagnosis, and treatment. Social medicine helps to understand how health inequalities are structured and reproduced.

Public health provides a framework for analyzing access, prevention, risk distribution, and systemic response. Psychology clarifies the role of fear, trust, sensory experience, and interactional patterns. Medical ethics introduces the categories of dignity, autonomy, respect, and fairness. Healthcare organization reveals how institutional routines may either facilitate or block access. Only by integrating these perspectives can the issue be adequately understood.

The interdisciplinary approach is also important because people with disabilities themselves represent a highly heterogeneous group. A person with a spinal cord injury, a patient with autism spectrum disorder, an individual with cerebral palsy, a blind patient, or a person with an intellectual disability may all require dental care, yet the barriers they face can differ substantially. For one patient, the decisive issue may be physical transfer to the dental chair; for another, it may be sensitivity to sound and light; for a third, the inability to understand long verbal explanations; for a fourth, cardiovascular instability or the burden of multiple medications[19].

Therefore, the methodology of studying accessibility must avoid generalization that erases clinical and social differences. Accessibility should be analyzed as a dynamic interaction between the patient's specific functional situation and the adaptability of the healthcare environment.

Another important methodological principle is patient-centeredness. In the context of this study, patient-centeredness means more than respectful communication. It involves recognition that effective dental care cannot be built around institutional convenience alone. Instead, the organization of care must be structured around the actual needs, limitations, and capacities of the patient[20]. This includes not only treatment planning but also the design of preventive programs, communication strategies, timing of visits, involvement of caregivers, explanation of procedures, and long-term follow-up. In the case of people with disabilities, patient-centeredness becomes inseparable from

[19] Sachse C, Jacob R. Optimizing Dental Care for Adults With Intellectual and Developmental Disabilities: Challenges, Strategies, and Preventative Approaches. *Cureus.* 2024 Vol. 2 P.72871. doi: 10.7759/cureus.72871.

[20] Дячук Д., Мороз Г., Гідзинська І., Кравченко А. Запровадження пацієнт-орієнтованого підходу та удосконалення організації медичної допомоги на сучасному етапі (огляд літератури). *Клінічна та профілактична медицина*, 2023. № 1(23). С.67-77. https://doi.org/10.31612/2616-4868.1(23).2023.10.

inclusiveness, because only an individualized and flexible approach can ensure that care is not merely offered but truly accessible.

At the same time, it is important to emphasize that patient-centeredness should not be confused with clinical arbitrariness. The adaptation of care for people with disabilities must remain professionally grounded, evidence-informed, and ethically justified. This is why the methodological foundation of the study includes the principle of balance between standardization and flexibility. On the one hand, dental care should rely on scientifically validated preventive and therapeutic approaches[21].

On the other hand, these approaches must be implemented with sufficient clinical sensitivity to the patient's specific context. Genuine accessibility arises precisely at this intersection: between evidence-based dentistry and individualized adaptation.

A further methodological consideration concerns the preventive orientation of the study. The issue at stake is not limited to treatment of already advanced dental pathology. For people with disabilities, prevention is of special importance because delayed care often leads to more severe disease, more painful interventions, and more complex systemic consequences. If accessibility is poor, early preventive visits are missed, and the patient enters the dental system only when disease has already progressed[22]. Therefore, studying accessibility also means studying the conditions under which preventive dental care can become regular, acceptable, sustainable, and integrated into broader health monitoring.

Taken together, these theoretical and methodological positions make it possible to understand accessibility of dental services for people with disabilities as a broad, multidimensional, and clinically significant phenomenon. It cannot be reduced to infrastructure, nor to legal declarations, nor to isolated acts of professional goodwill. It is a systemic indicator of how medicine translates the principles of inclusion, prevention, and patient-centeredness into real clinical practice. Within this logic, accessibility of dental care becomes part of a larger strategy for preserving somatic health. This is particularly important when considering the prevention of cardiovascular complications, because oral health status, chronic inflammation, stress burden, nutritional impairment, and continuity of medical support all interact within the patient's overall risk profile.

Thus, the theoretical and methodological basis of the study rests on several key propositions. First, accessibility of dental services is

---

[21] Glassman P. A review of guidelines for sedation, anesthesia,and alternative interventions for people with special needs. *Spec Care Dentist.* 2009 Vol. 29(1) P.9-16. doi: 10.1111/j.1754-4505.2008.00056.x

[22] Sarvas E, Webb J, Landrigan-Ossar M, Yin L; Section on oral health; council on children with disabilities; section on anesthesiology and pain medicine. Oral Health Care for Children and Youth With Developmental Disabilities: *Clinical Report. Pediatrics.* 2024 Vol. 154.P:e2024067603. doi: 10.1542/peds.2024-067603.

a multidimensional category that includes physical, organizational, communicative, psychological, and professional components. Second, in the case of people with disabilities, accessibility should be evaluated not formally but through the real possibility of receiving continuous, adapted, and clinically adequate care[23]. Third, disability must be understood within a biopsychosocial framework, which highlights the interaction between functional limitations and the environment rather than reducing the problem to diagnosis alone. Fourth, oral health should be considered as an integral component of somatic well-being and prevention.

Fifth, the study of accessibility of dental services requires an interdisciplinary approach that combines dentistry, social medicine, public health, psychology, ethics, and healthcare organization. It is precisely within such a framework that accessibility of dental care for people with disabilities can be interpreted as a meaningful component of broader strategies aimed at preserving health and reducing systemic risks.

2. Clinical Significance of Oral Health in the Prevention of Cardiovascular Complications in People with Disabilities

The clinical significance of oral health in modern medicine can no longer be confined to the condition of the teeth, periodontal tissues, or oral mucosa alone. Contemporary understanding increasingly supports the view that the oral cavity is not an isolated anatomical zone but a biologically active and clinically meaningful part of the whole organism[24].

Chronic inflammatory processes in the mouth, untreated odontogenic infections, persistent periodontal lesions, impaired chewing function, and poor oral hygiene may influence general somatic status through several interconnected mechanisms, including inflammatory burden, nutritional disturbance, pain-related stress, and reduced quality of life. This perspective becomes especially important when discussing people with disabilities, for whom dental pathology often develops in a context of increased medical vulnerability, limited access to regular care, and a higher probability of comorbid conditions. In such patients, oral health should be considered not as a secondary or optional concern, but as one of the relevant elements of a broader preventive strategy aimed at maintaining overall health and reducing cardiovascular complications.

---

[23] Круть А. Г. Критерії та індикатори якості стоматологічної допомоги: стан розробки та використання. *Український журнал медицини, біології та спорту*. 2021. № 5 (33), С. 285-293. DOI: 10.26693/jmbs06.05.285

[24] Мазур І.П., Добровинська О.В., Венцурик Ю.О. Взаємозв'язок генералізованого пародонтиту та підвищеного рівня продукції паратиреоїдного гормону. *Стоматологічне та загальне здоров'я / Oral and General Health.* 2024. Т. 5, № 1. С. 10–13. DOI: 10.22141/ogh.5.1.2024.181. URL: https://doi.org/10.22141/ogh.5.1.2024.181

From a clinical point of view, people with disabilities often face a considerably increased risk of deterioration in oral status. This is due not to disability itself in any abstract sense, but to a complex interaction of functional, behavioral, neurological, social, and therapeutic factors.

Many patients experience difficulty with independent toothbrushing and daily hygiene because of impaired motor control, limited hand function, dependence on caregivers, fatigue, lack of coordination, or cognitive barriers that reduce the consistency and effectiveness of oral care. In other cases, oral hygiene may be technically possible but irregular because of psycho-emotional instability, sensory intolerance to oral manipulation, communication difficulties, or limited supervision. This leads to prolonged plaque retention, increased accumulation of microbial biofilm, gingival inflammation, progressive periodontal disease, higher caries activity, recurrent oral infections, and in some cases extensive untreated dental destruction.

The situation is further complicated by the fact that many people with disabilities live with chronic neurological, metabolic, endocrine, cardiovascular, or musculoskeletal conditions that directly or indirectly influence oral health. A patient with cerebral palsy may have impaired swallowing, abnormal muscle tone, bruxism, and traumatic oral habits.

A person with autism spectrum disorder may have severe sensory defensiveness, which complicates brushing, preventive visits, or tolerance of treatment. A patient with intellectual disability may depend almost entirely on a caregiver for daily hygiene and timely recognition of oral pain. Individuals with chronic systemic diseases may receive long-term pharmacotherapy that affects salivary flow, mucosal condition, gingival response, appetite, or immune status. As a result, oral pathology in these patients often develops not only more quickly but also in a more complex and clinically burdensome context than in the general population[25]. One of the most important clinical implications of this reality is the higher probability of chronic inflammation in the oral cavity. Gingivitis and periodontitis deserve particular attention in this regard. Periodontal tissues respond to long-standing bacterial challenge with a persistent inflammatory process that may remain clinically active for years if it is not diagnosed and managed in time[26]. In people with disabilities, especially those with inadequate oral hygiene or limited access to supportive care, periodontal inflammation may become a chronic background condition

[25] Кравець О.В., Єхалов В.В., Седінкін В.А., Романюта І.А. Стоматологічні та анестезіологічні проблеми у нікотинозалежних осіб (літературний огляд). *Oral and General Health.* 2024. Т. 5, № 2. С. 66–75. DOI: 10.22141/ogh.5.2.2024.193.

[26] Natarajan P., Madanian S., Marshall S. Investigating the link between oral health conditions and systemic diseases: a cross-sectional analysis. *Scientific Reports*. 2025. Vol. 15, No. 1. Art. 10476. DOI: 10.1038/s41598-025-92523-6.

rather than an episodic problem. Clinically, this matters not only because it leads to tooth loss, bleeding, pain, and dysfunction, but also because chronic periodontal inflammation contributes to a systemic inflammatory milieu. This point is crucial when oral health is considered in relation to cardiovascular risk.

The relationship between oral inflammatory disease and cardiovascular complications should be described with clinical precision and methodological caution.

It would be an oversimplification to state that dental disease directly causes cardiovascular pathology in a straightforward way. However, it is equally inaccurate to ignore the fact that chronic oral infection and long-term periodontal inflammation may function as meaningful additional contributors to systemic inflammatory burden[27].

Recurrent bacteremia, persistent cytokine activation, endothelial dysfunction, low-grade chronic inflammation, and the metabolic consequences of ongoing infection all represent plausible pathways through which poor oral health may interact with cardiovascular risk. In individuals who already possess pre-existing vulnerability, such as hypertension, reduced mobility, obesity, diabetes, autonomic dysfunction, or chronic neurological disease, this additional burden may become clinically relevant.

In people with disabilities, such vulnerability is often particularly pronounced. Many of these patients already have multiple risk factors that can negatively influence cardiovascular health. Reduced physical activity, dependence on long-term care, chronic stress, social isolation, limited capacity for self-monitoring, dietary imbalance, sleep disturbances, endocrine disorders, and medication burden frequently coexist in this population. When untreated oral disease is added to this picture, it does not remain a purely local problem. It may reinforce an already unfavorable clinical profile by contributing to persistent inflammatory activation, recurrent pain, nutritional compromise, and reduced treatment adherence in other areas of health management. From this perspective, oral health becomes part of the patient's cardiovascular risk environment rather than an unrelated field of clinical concern.

Another important mechanism linking dental status and somatic deterioration is nutrition. Oral pain, advanced caries, periodontal instability, missing teeth, ill-fitting prosthetic constructions, mucosal lesions, or fear of chewing often lead patients to avoid hard, fibrous, or nutritionally valuable foods.

In people with disabilities, whose diet may already be restricted by swallowing difficulties, sensory preferences, dependence on caregivers, or

[27] Скибчик О. В. Етіологічні й патогенетичні аспекти взаємозв'язку генералізованого пародонтиту та ішемічної хвороби серця (огляд літератури та власні дані). *Праці Львівського лікарського товариства / Practical Medicine.* 2022. Т. 11, № 1. С. 65–72.

functional limitations, poor oral health can intensify nutritional imbalance even further. Such imbalance may affect metabolic regulation, weight control, micronutrient intake, inflammatory status, and the general condition of the cardiovascular system[28]. Thus, impaired oral function should be recognized not merely as a quality-of-life issue but as a clinically relevant factor in the maintenance of somatic stability.

Pain is another underappreciated component of the problem. Chronic dental pain or recurrent oral discomfort may act as a source of prolonged physiological and psycho-emotional stress. For some people with disabilities, especially those with communication impairments, pain remains underrecognized or is expressed indirectly through irritability, sleep disruption, refusal to eat, behavioral changes, or withdrawal from contact. This means that oral disease may persist longer and create a prolonged stress burden without being properly identified. Chronic pain, especially when combined with pre-existing vulnerability, may affect autonomic regulation, increase emotional tension, reduce participation in daily routines, complicate caregiving, and worsen overall somatic adaptation. In a patient already at risk of cardiovascular instability, this chronic stress exposure may have indirect but meaningful consequences.

The clinical importance of chronic odontogenic infection should also be emphasized. Untreated teeth with pulpal or periapical pathology, retained roots, recurrent abscesses, and chronic inflammatory lesions of the oral cavity may serve as persistent infectious foci.

In people with disabilities, these lesions are sometimes detected late because pain is not clearly verbalized, access to dental visits is irregular, and radiographic or detailed examination may be difficult to perform. The longer such pathology remains untreated, the greater the chance that it will contribute to systemic discomfort, repeated inflammatory exacerbations, and a general worsening of health. For medically fragile patients, timely elimination of chronic infectious foci is especially important because it reduces one of the avoidable sources of inflammatory and infectious load on the organism[29].

The clinical logic of prevention therefore becomes central. When discussing people with disabilities, prevention should not be treated as a routine recommendation placed at the end of a treatment plan. It must be regarded as the primary strategy for preserving both oral and general health.

---

[28] Touger-Decker R., Mobley C. C. Diet, cardiovascular disease and oral health. *The Journal of the American Dental Association.* 2010. Vol. 141, No. 3. P. 243–249. DOI: 10.14219/jada.archive.2010.0164.

[29] Senirkentli G. B., Tirali R. E., Bani M. Assessment of dental pain in children with intellectual disability using the dental discomfort questionnaire. *Journal of Intellectual Disabilities*. 2022. Vol. 26, No. 2. P. 307–318. DOI: 10.1177/1744629520981318.

Preventive dental care in this population includes regular examinations, early detection of pathology, plaque control, caregiver education, individualized hygiene plans, dietary counseling, fluoride-based preventive support, control of periodontal status, and timely sanitation of infection. Importantly, preventive programs must be adapted to the patient's real capacities rather than modeled on idealized assumptions. A recommendation is clinically meaningful only if it can actually be implemented in the daily life of the patient and the caregiving environment.

For this reason, the role of caregivers in prevention is clinically significant. Many people with disabilities depend partially or fully on parents, family members, assistants, or institutional caregivers for oral hygiene and access to treatment. The effectiveness of prevention therefore depends not only on the dentist's knowledge, but also on whether caregivers understand the importance of oral health, can recognize early warning signs, know how to perform or assist with daily hygiene, and are prepared to seek timely professional help. In patients who cannot independently communicate symptoms, caregivers may become the primary link between early disease development and clinical intervention.

Their education is thus part of the preventive model and should be viewed as a health-preserving measure rather than as supplementary advice.

A further clinical issue is the timing of intervention. Inaccessible or delayed dental care tends to shift treatment from prevention to crisis management. Patients enter the system not for routine hygiene support or early restorative care, but when pain, swelling, infection, feeding difficulty, or visible dental destruction has already developed. This is especially problematic in people with disabilities because advanced disease is harder to treat, often requires more extensive procedures, places greater stress on the patient, and may require more complicated coordination with other medical specialties[30].

Consequently, delayed oral care increases not only dental morbidity but also the likelihood that local disease will have broader somatic consequences. In this sense, early access to dental services is clinically relevant to cardiovascular prevention precisely because it limits the duration and severity of inflammatory and infectious exposure.

The interdisciplinary dimension of prevention becomes especially clear here. A dentist alone cannot fully manage all factors relevant to cardiovascular risk in a patient with disability, just as a cardiologist or primary care physician cannot adequately address oral inflammatory burden without dental participation. A clinically mature preventive model requires awareness that oral health is

[30] Шпак С. В., Струк В. І., Герман Л. В. Стан твердих тканин зубів у дітей із сенсорною депривацією зору. *Світ медицини та біології.* 2023. № 1(83). С. 184-187. DOI 10.26724/2079-8334-2023-1-83-184-187.

one part of an interconnected medical landscape. If a patient with disability has hypertension, obesity, diabetes, low mobility, chronic stress, and poor oral health, then the management of cardiovascular risk should not exclude dental evaluation and sanitation. Likewise, if a dentist observes advanced periodontal inflammation, repeated oral infection, or severe hygiene failure in a medically complex patient, this should be understood not merely as a local problem but as a potential marker of broader health vulnerability.

This does not mean that oral care should be burdened with exaggerated claims. Scientific caution remains essential. Oral pathology should not be portrayed as a sole or deterministic cause of cardiovascular complications. Cardiovascular disease is multifactorial, and its development depends on a broad constellation of genetic, metabolic, behavioral, and environmental factors. Nevertheless, from a clinical perspective, it is entirely justified to regard poor oral health as one of the modifiable additional contributors to the overall burden of risk, especially in patients whose systemic resilience is already reduced. Such a position is both scientifically balanced and clinically useful, because it supports preventive action without overstating causality.

In people with disabilities, the argument for this preventive approach is even stronger because the consequences of poor oral health often extend beyond inflammation alone. They may include sleep disturbance, reduced social participation, worsening of behavioral symptoms, caregiver burden, difficulty in medication intake, decline in nutritional adequacy, and lower tolerance for other medical procedures. Each of these factors can influence general health status and complicate management of chronic disease[31]. Therefore, the clinical significance of oral care lies not only in reducing local pathology, but also in stabilizing the patient's broader functional condition. In a population that often lives with cumulative vulnerability, even seemingly "dental" problems may have systemic implications.

Regular dental monitoring is therefore of substantial preventive value. Its goal should not be limited to the detection of cavities or the performance of procedures when disease is advanced.

Rather, it should aim to maintain long-term stability of the oral environment by controlling plaque, monitoring gingival and periodontal condition, identifying risk factors early, adapting hygiene strategies, and preventing chronic infectious lesions from becoming established. For people with disabilities, this monitoring should ideally be integrated into a broader model of health supervision rather than treated as an isolated or optional service. The more continuous and adapted

[31] Fahmi M. K., Basha S., Noor Mohamed R., Multifactorial Analysis of Oral Health-Related Quality of Life in Children with Special Health Care Needs: A Case-Control Study. *Healthcare.* 2025. Vol. 13, No. 8. Art. 919. DOI: 10.3390/healthcare13080919.

the dental support, the lower the chance that oral pathology will become an unrecognized contributor to somatic deterioration.

From a clinical point of view, this chapter supports a broader understanding of dental prevention. Prevention in people with disabilities is not merely a matter of preserving teeth. It is a strategy of reducing chronic inflammatory burden, protecting nutritional function, minimizing pain and infection, supporting general adaptation, and contributing to a lower-risk somatic profile. This is particularly important in the context of cardiovascular complications, because many of the pathways involved in cardiovascular deterioration–chronic inflammation, stress, reduced self-care capacity, metabolic imbalance, and delayed treatment–may intersect with poor oral health[32].

Thus, the clinical significance of oral health in the prevention of cardiovascular complications in people with disabilities lies in several interconnected facts. First, this population is at increased risk of poor oral status due to functional, communicative, behavioral, and medical barriers.

Second, chronic oral disease, especially persistent periodontal inflammation and odontogenic infection, contributes to inflammatory and systemic burden rather than remaining a purely local issue. Third, people with disabilities often have multiple pre-existing cardiovascular risk factors, which makes any additional modifiable burden more clinically important. Fourth, accessible and adapted preventive dental care can reduce the duration and severity of oral pathology, support nutritional and functional stability, and become part of a broader interdisciplinary approach to health preservation. In this sense, oral health should be regarded as a meaningful component of somatic prevention and, more specifically, as one of the relevant factors in the effort to reduce cardiovascular complications in medically vulnerable populations.

3. Socio-Psychological, Organizational, and Interdisciplinary Mechanisms for Ensuring Accessibility of Dental Care for People with Disabilities

Ensuring accessibility of dental care for people with disabilities cannot be reduced to the presence of a clinic, a dentist, or even technically available treatment options. In real clinical life, accessibility emerges only when a person is able to pass through the entire pathway of care without encountering barriers that make prevention, diagnosis, treatment, or follow-up practically unattainable. For people with disabilities, this pathway is often disrupted not by a single factor, but by the cumulative effect of socio-psychological, organizational,

[32] Schulze-Späte U., Sharma P., Konkel J. E. Crosstalk between periodontitis and cardiovascular risk. *Current Oral Health Reports.* 2024. DOI: 10.1007/s40496-024-00434-7.

communicative, and systemic obstacles[33]. Therefore, if accessibility of dental services is to be understood as part of a broader strategy for preserving somatic health and reducing cardiovascular complications, it must be supported by mechanisms that operate simultaneously at several levels: the level of the patient's experience, the level of professional interaction, the level of healthcare organization, and the level of interdisciplinary coordination.

One of the central issues in this context is the socio-psychological acceptability of dental care. For many people with disabilities, a dental visit is not a neutral healthcare event.

It may be associated with fear, sensory overload, shame, loss of control, previous traumatic experiences, difficulty anticipating what will happen, or dependence on another person throughout the process.

These factors are clinically important because they shape not only whether the person agrees to treatment, but whether treatment can be completed at all. Even when dental services are formally available, the patient may postpone visits, avoid preventive examinations, or interrupt care if the clinical environment is perceived as threatening, unpredictable, humiliating, or emotionally overwhelming. In such cases, inaccessibility is produced not by distance or cost alone, but by the inability of the system to provide psychologically tolerable care[34].

This is why communication becomes one of the core mechanisms of accessibility. In dentistry, communication is not merely a courtesy or an ethical ornament; it is an operational part of care. For a person with a disability, the dentist's ability to explain procedures clearly, adapt language, slow down the interaction, repeat information when needed, observe non-verbal reactions, and maintain emotional calm may determine whether trust is established and whether the patient remains engaged in treatment. Patients with sensory impairments, intellectual disabilities, autism spectrum conditions, neurological disorders, or severe anxiety often require a communication strategy that differs from standard dental interaction. What appears simple to the clinician may be overwhelming or incomprehensible to the patient. Therefore, accessibility requires not only professional knowledge of dentistry but also practical mastery of adaptive communication.

The socio-psychological dimension also includes the issue of dignity. People with disabilities are particularly vulnerable to paternalistic, formal, or dismissive treatment in medical settings.

---

[33] Lim M. A. W. T., Borromeo G. L. Perceived barriers encountered by oral health professionals in the Australian public dental system providing dental treatment to individuals with special needs. *Special Care in Dentistry.* 2021. Vol. 41, No. 3. P. 381–389. https://doi.org/10.1111/scd.12581

[34] Барковська А. Д., Ляхова Н. О. Вплив рівня освіти на стоматологічну тривожність та взаємовідносини лікаря-стоматолога і пацієнта. *Медицина сьогодні і завтра.* 2023. Т. 92, № 2. С. 33–41. DOI: 10.35339/msz.2023.92.2.bak.

If a dentist speaks only to a caregiver, ignores the patient's presence, shows irritation at the slower pace of interaction, or treats accommodation as an inconvenience, this undermines not only trust but access itself. A person who feels devalued, rushed, or emotionally unsafe is less likely to return for preventive care and more likely to enter the system only in crisis situations. In this sense, respectful and ethically sensitive interaction is not separate from clinical effectiveness; it is one of its preconditions. Especially in the context of prevention of cardiovascular complications, where continuity of support and regular monitoring are important, preserving the patient's sense of dignity becomes a practical health-preserving mechanism.

An equally important role is played by caregivers, family members, assistants, or support persons. For many people with disabilities, dental care is not an individual act but a relational process involving one or more accompanying persons who assist with transportation, communication, consent, emotional regulation, daily hygiene, and post-treatment care[35]. From an organizational perspective, accessibility therefore depends on whether the healthcare setting is prepared to integrate these support figures into the treatment process appropriately. This does not mean replacing the patient's subjectivity with the caregiver's voice.

Rather, it means recognizing that in many cases effective care requires a triadic model of interaction: dentist, patient, and support person. If the clinic ignores this reality and insists on a narrowly standardized format of care, access is reduced. If, by contrast, the service allows flexible participation of caregivers while preserving the patient's own role and dignity, accessibility increases substantially.

At the organizational level, accessibility is closely related to the structure of service delivery. Even a highly skilled dentist may be unable to provide genuinely accessible care if the surrounding system is rigid, hurried, fragmented, or poorly coordinated. People with disabilities often need longer appointments, more predictable scheduling, reduced waiting times, flexible sequencing of procedures, continuity with the same provider, and an environment that minimizes sensory and emotional stress. In many ordinary dental settings, however, organizational routines are designed for rapid patient turnover, brief visits, crowded waiting areas, high sensory stimulation, and minimal allowance for variation. Such a model may function adequately for standard outpatient flow, but it becomes exclusionary for patients whose participation in care depends on preparation, adaptation, and sufficient time[36].

---

[35] Rebotim E. D., Björk M., Berlin H., Primary caregivers' perceptions of challenges in dental and orthodontic care for children with Down syndrome. *International Dental Journal.* 2026. Article 104016. DOI: 10.1016/j.identj.2025.104016.

[36] Thomas N., Blake S., Morris C., Moles D. R. Autism and primary care dentistry: parents' experiences of taking children with autism or working diagnosis of autism for dental examinations. *International Journal of Paediatric Dentistry*. 2018. Vol. 28, No. 2. P. 226–238. DOI: 10.1111/ipd.12345.

Waiting itself may become a hidden barrier. Long delays, uncertainty, noise, visual overstimulation, lack of seating adapted for physical needs, or the inability to predict when treatment will begin can provoke anxiety, fatigue, behavioral dysregulation, or even physical deterioration in some patients. Therefore, organizational accessibility requires more than formal registration. It requires thoughtful structuring of the patient journey. Appointment systems should allow for individualized scheduling; reception staff should understand the needs of patients with disabilities; transition between arrival, waiting, treatment, and discharge should be clear and manageable.

In some cases, even small organizational adaptations–such as the first appointment of the day, reduced waiting in common areas, or advance explanation of the sequence of care–may dramatically improve the real accessibility of the service.

Physical accessibility remains essential, but it should be understood broadly. Barrier-free entrance, elevators, wide дверні проходи, accessible sanitary facilities, suitable transfer conditions, and compatible dental chair positioning are all necessary. However, physical accessibility is not merely a question of infrastructure; it is also a question of usability. A clinic may technically have a ramp, but if movement inside the facility is difficult, if the chair cannot be adjusted safely, or if the patient cannot remain comfortably positioned during the procedure, access remains incomplete.

Therefore, organizational planning and physical design must work together. In the context of long-term somatic health preservation, such accessibility is not a luxury but a structural requirement for preventive continuity.

Another decisive mechanism is professional preparedness of dental personnel. Accessibility is undermined when clinicians feel unprepared, anxious, or unwilling to work with people with disabilities. This lack of readiness may manifest in subtle forms: unnecessary referrals, restriction of care to the most minimal interventions, excessive reliance on rigid protocols, or avoidance of communication with the patient. In some cases, the barrier is not hostility but lack of training[37]. Dentists may not know how to adapt preventive recommendations, how to structure interaction with patients who communicate differently, how to work with caregivers, or how to interpret behavior that reflects pain, overload, or fear rather than non-cooperation. This is why accessibility depends not only on infrastructure or policy but also on education. Professional training must include clinical, communicative, ethical, and interdisciplinary preparation for work with people with disabilities.

[37] Verbovska R. I. Деонтологічний підхід до підготовки майбутніх лікарів-стоматологів. Актуальні проблеми сучасної медицини: *Вісник Української медичної стоматологічної академії.* 2019. Т. 19, № 1. С. 93–96. DOI: 10.31718/2077-1096.19.1.93.

Within this framework, continuing education becomes especially important. It is unrealistic to expect that all dentists will gain sufficient confidence merely through occasional exposure during general training. Accessibility requires a sustained educational effort, including case-based learning, simulation, interdisciplinary consultation, and practical experience with adapted models of care. Such preparation should help practitioners understand disability not as an exceptional disruption of routine practice, but as part of the normal diversity of clinical reality. When dentists are trained to anticipate difference rather than fear it, services become more stable, more predictable, and more genuinely accessible.

The organizational model of care should also include a preventive orientation. People with disabilities often reach dental services too late, when disease is already advanced, pain is severe, infection is established, or treatment has become highly stressful. This late entry into care is itself a sign of inaccessibility. A truly accessible system should not wait for urgent pathology to emerge. It should make regular preventive contact feasible and realistic[38]. This means organizing recall systems, adapting oral hygiene education to the patient's capacities, involving caregivers in prevention, ensuring continuity of supervision, and treating prevention as the core rather than the periphery of service delivery.

In the broader perspective of reducing cardiovascular complications, this preventive model is especially important because it reduces long-term inflammatory burden, recurrent pain, chronic infection, and the cumulative physiological stress associated with neglected oral disease.

Interdisciplinary coordination is another major mechanism. The accessibility of dental care for people with disabilities cannot be ensured by dentistry alone because the barriers these patients face often intersect with broader medical, psychological, and social needs.

A person with neurological disease may require coordination between the dentist and neurologist. A patient with severe cardiovascular vulnerability may need consultation with a primary care physician or cardiologist before invasive procedures. A child or adult with autism spectrum disorder may benefit from guidance from psychologists, behavioral specialists, or speech and language professionals. A person with complex physical disability may need rehabilitation or nursing input regarding positioning, fatigue, and transportation. Therefore, accessibility becomes stronger when dentistry is integrated into a network of care rather than functioning as an isolated specialty.

[38] Park B. Y., Park Y. M., Kim N. H. Disparity in access for people with disabilities to outpatient dental care services: a retrospective cohort study. *BMC Oral Health.* 2023. Vol. 23. Article 287.

From the perspective of public health and social medicine, this interdisciplinary coordination has strategic significance. Oral health problems in people with disabilities often remain invisible to the broader healthcare system until they produce acute symptoms. Yet by that stage, disease has often become more severe, more difficult to treat, and more burdensome for the patient. If oral health is recognized earlier as part of general health supervision, then preventive interventions can be implemented in a timelier and less traumatic way. This is particularly relevant in the context of cardiovascular prevention. A healthcare model that addresses blood pressure, metabolic status, medication burden, mobility, and nutritional risk but ignores persistent oral inflammation remains incomplete[39]. Conversely, when dentistry is incorporated into interdisciplinary preventive planning, the patient's overall risk management becomes more coherent.

An important element of this interdisciplinary model is information exchange. In practice, fragmentation of information is a major obstacle. Dentists may not know enough about the patient's neurological status, cardiovascular instability, medication regimen, seizure risk, or communication profile. Other specialists may not be aware of the patient's chronic oral infection, severe periodontal inflammation, nutritional problems related to oral pain, or inability to maintain hygiene. Such fragmentation weakens both access and safety.

Therefore, systems that support better communication between healthcare providers can indirectly increase accessibility by making dental care more individualized, medically informed, and feasible.

Social support mechanisms should also be considered. For some people with disabilities, access to dental care is limited by transportation difficulties, financial burden, caregiver exhaustion, lack of awareness about preventive needs, or the absence of coordinated referral pathways. These problems cannot be solved inside the dental office alone. They require a broader support environment that may include social workers, care coordinators, community services, educational interventions for families, and public health initiatives aimed at reducing disparities. From this perspective, accessibility is not only a clinical or institutional issue but also a social justice issue. If people with disabilities are systematically less able to obtain preventive dental care, then they are also more exposed to avoidable somatic deterioration, including cardiovascular vulnerability.

The ethical dimension of accessibility should not be overlooked either. A healthcare system that formally recognizes equality but does not create

[39] Скибчик О. В. Етіологічні й патогенетичні аспекти взаємозв'язку генералізованого пародонтиту та ішемічної хвороби серця (огляд літератури та власні дані). *Практична медицина.* 2022. Т. 28, № 1. С. 65–72.

realistic conditions for people with disabilities to receive care reproduces inequality in practice.

Accessibility in dentistry must therefore be understood as an ethical obligation grounded in fairness, respect, and non-discrimination. This obligation becomes even more compelling when poor access contributes not only to local oral suffering but also to broader health risks. In this sense, ensuring accessible dental care is both a matter of professional duty and a matter of preventive responsibility[40].

At the practical level, several mechanisms emerge as especially important for improving accessibility. These include barrier-free infrastructure; flexible and patient-sensitive scheduling; reduced waiting time; training of dental and administrative staff; adaptive communication strategies; structured involvement of caregivers; individualized preventive planning; continuity with the same professionals whenever possible; interdisciplinary consultation; and the integration of oral health into broader long-term monitoring of people with disabilities. None of these measures alone is sufficient. Their value lies in combination, because accessibility is produced by the cumulative fit between the patient's needs and the system's capacity to respond.

Ultimately, ensuring accessibility of dental care for people with disabilities requires a shift from episodic accommodation to systemic design. The question is not whether a service can occasionally make an exception for a "difficult" patient, but whether the service is built in a way that anticipates diversity and supports continuity. This shift is crucial if dentistry is to contribute meaningfully to broader health preservation.

In the context of prevention of cardiovascular complications, such accessibility becomes especially valuable because it enables regular care, reduces chronic oral inflammation, limits untreated infection, supports adequate nutrition, decreases stress burden, and strengthens the patient's overall health trajectory.

Thus, the socio-psychological, organizational, and interdisciplinary mechanisms of accessibility should be viewed as interdependent components of one coherent model. Socio-psychological accessibility ensures that the patient can enter care without overwhelming fear, humiliation, or alienation. Organizational accessibility ensures that the patient can actually move through care in a realistic and manageable way. Interdisciplinary accessibility ensures that dental care is connected to the patient's broader health needs and is not weakened by fragmentation[41].

---

[40] Glassman P., Subar P. Improving and Maintaining Oral Health for People with Special Needs. Dental Clinics of North America. 2009. Vol. 53, No. 2. P. 343–363. DOI: 10.1016/j.cden.2008.12.001.

[41] Nqcobo C., du Plessis J. B. The experiences of patients with disabilities in accessing oral health services: a systematic review. *Disability and Rehabilitation.* 2019. Vol. 41, No. 25. P. 2973–2984. DOI: 10.1080/09638288.2018.1473503.

Together, these mechanisms create the conditions under which dental services become not merely available, but truly accessible. For people with disabilities, this is essential not only for oral health but for the preservation of general somatic well-being and for the broader interdisciplinary prevention of cardiovascular complications.

CONCLUSIONS

Accessibility of dental services for people with disabilities should be regarded not only as a matter of healthcare inclusion, but also as an important component of broader somatic health preservation. The analysis carried out in this study demonstrates that oral health in this population cannot be viewed as a narrow local issue, because chronic inflammatory processes in the oral cavity, persistent odontogenic infection, impaired chewing function, pain, and poor hygiene may increase the overall physiological burden on the body and aggravate the course of comorbid conditions. In this context, accessible and timely dental care acquires preventive significance that extends beyond dentistry itself.

It has been established that people with disabilities are exposed to a higher risk of deterioration of oral status due to a combination of functional limitations, dependence on caregivers, communication difficulties, behavioral and sensory barriers, chronic systemic disease, and reduced access to regular preventive care. Under such circumstances, dental pathology is often detected late, progresses more rapidly, and becomes clinically more complicated. This makes preventive dental support especially important, since regular monitoring, early diagnosis, sanitation of chronic infectious foci, plaque control, and individualized hygiene measures can reduce long-term inflammatory burden and improve overall health stability.

The study also shows that the clinical significance of oral health in this population is closely linked to the prevention of cardiovascular complications. Although oral disease should not be interpreted as a direct and isolated cause of cardiovascular pathology, chronic periodontal inflammation, recurrent infection, pain-related stress, and nutrition-related dysfunction may act as meaningful additional contributors to systemic vulnerability. For people with disabilities, who often already live with multiple cardiovascular risk factors or broader somatic fragility, neglect of oral health may therefore become part of a cumulative chain of adverse influences. Accordingly, dental care should be included in interdisciplinary preventive strategies aimed at reducing cardiovascular complications in medically vulnerable groups.

It has been substantiated that genuine accessibility of dental services is multidimensional and includes physical, organizational, communicative, psychological, and professional components. A dental service cannot be considered truly accessible if a patient is formally entitled to care but is unable

to receive it in a predictable, understandable, safe, and emotionally acceptable way. In this regard, socio-psychological mechanisms such as adaptive communication, preservation of patient dignity, involvement of caregivers, and reduction of fear and sensory overload are as important as barrier-free infrastructure and technical equipment. Accessibility is achieved not through isolated accommodations, but through a system capable of adapting to the real needs of the patient.

Particular importance is attached to organizational and interdisciplinary mechanisms. Flexible scheduling, continuity of care, preventive orientation of services, staff training, and coordination between dentistry and other medical or supportive specialties significantly increase the real possibility of receiving timely care. At the same time, the integration of dentistry into broader models of health supervision for people with disabilities allows oral health to be treated as a meaningful part of general preventive medicine rather than as an isolated specialty concern. This approach is especially relevant in the framework of cardiovascular risk reduction, where chronic inflammation, systemic vulnerability, and fragmented care often interact.

SUMMARY

The article examines the accessibility of dental services for people with disabilities as a component of an interdisciplinary approach to the prevention of cardiovascular complications. It is substantiated that oral health in this category of patients should not be regarded as an isolated local issue, since chronic inflammatory processes in the oral cavity, persistent odontogenic infection, impaired chewing function, pain, and poor oral hygiene may increase the overall somatic burden and aggravate the course of comorbid conditions. It is shown that people with disabilities often face a combination of physical, organizational, communicative, psychological, and professional barriers that limit timely access to preventive and therapeutic dental care.

The study emphasizes that poor accessibility of dental services contributes to delayed diagnosis, progression of dental pathology, persistence of chronic inflammation, and reduced stability of general health. Particular attention is paid to the clinical significance of oral health in the context of cardiovascular risk prevention, as chronic periodontal inflammation and untreated oral infection may act as additional contributors to systemic vulnerability in medically fragile patients. The article also highlights the socio-psychological and organizational dimensions of accessibility, including adaptive communication, preservation of patient dignity, involvement of caregivers, flexible service organization, and professional preparedness of dental personnel.

It is argued that effective prevention of cardiovascular complications in people with disabilities requires the integration of dental care into a broader interdisciplinary model involving dentistry, public health, social medicine, and other supportive medical specialties. The practical significance of the study lies in the possibility of using its provisions for improving inclusive dental care, strengthening preventive strategies, and integrating oral health into broader health protection programs for vulnerable populations.

Bibliography

1. Baiju RM, Peter E, Varghese NO, Sivaram R. Oral Health and Quality of Life: Current Concepts. *J Clin Diagn Res.* 2017. Vol. 11(6) P.ZE21-ZE26. doi: 10.7860/JCDR/2017/25866.10110..
2. Скрипников П. М., Скрипнікова Т. П., Лупаца Н. А. Стан здоров'я органів порожнини рота у внутрішньо переміщених осіб // *Український стоматологічний альманах.* 2023. № 1. С. 12–16.
3. Pryimak, K., Zoriy, I., Bidenko, N. Стоматологічний статус у дітей із дитячим церебральним паралічем. Т*ерапевтика / ім. проф. Бережницького М.М.,* № 3(1), С. 35-40. https://doi.org/10.31793/2709-7404.2022.3-1.35
4. Ward LM, Cooper SA, Hughes-McCormack L. Oral health of adults with intellectual disabilities: a systematic review. *J Intellect Disabil Res.* 2019 Vol. 63(11) P:1359-1378. doi: 10.1111/jir.12632.
5. Vahdati, A.; Khadivi, G.; Ghorbani, Z.; Accessibility of Special Care Dentistry Across Countries: A Scoping Review. *Healthcare* 2024, Vol. 12, P. 2376. https://doi.org/10.3390/healthcare12232376
6. Lockhart, P., Chu, V., Zhao, J. et al. (2023) Oral hygiene and infective endocarditis: a case control study. *Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology,* Vol. 136 (3). pp. 333-342. https://doi.org/10.1016/j.oooo.2023.02.020
7. Литовченко В. П., Литовченко С. В. Безбар'єрність стоматологічної допомоги пацієнтам з особливими комунікативними потребами: організаційний та психологічний аспекти. *Науковий вісник Ужгородського національного університету,* 2022. № 1. С. 131-139. https://doi.org/10.32782/psy-visnyk/2022.1.25
8. Falconer JL, Rajani R, Androshchuk V, Exploring links between oral health and infective endocarditis. *Front Oral Health.* 2024. Vol. 2. P 5:1426903. doi: 10.3389/froh.2024.1426903.
9. Balkaran R, Esnard T, Perry M, Virtanen JI. Challenges experienced in the dental care of persons with special needs: a qualitative study among health professionals and caregivers. *BMC Oral Health.* 2022 Vol. 9 P.:116. doi: 10.1186/s12903-022-02153-x.

10. Schneidert M, Hurst R, Miller J, The role of environment in the International Classification of Functioning, Disability and Health (ICF). *Disabil Rehabil.* 2003 Vol. 25. P.:588-95. doi: 10.1080/0963828031000137090.

11. Hansen C, Curl C, Geddis-Regan A. Barriers to the provision of oral health care for people with disabilities. *BDJ In Pract*. 2021. Vol.34(3) P.:30–4. doi: 10.1038/s41404-021-0675-x.

12. Соколова І. І. Перешкоди отримання медичної та стоматологічної допомоги у пацієнтів із втратою слуху. *Актуальні проблеми сучасної медицини.* 2023. Т. 23, Вип. 4. – С. 318–322.

13. da Rosa SV, Moysés SJ, Theis LC, Barriers in Access to Dental Services Hindering the Treatment of People with Disabilities: A Systematic Review. *Int J Dent.* 2020. Vol. 23. P.:9074618. doi: 10.1155/2020/9074618.

14. Fallea A, Zuccarello R, Roccella M, Sensory-Adapted Dental Environment for the Treatment of Patients with Autism Spectrum Disorder. *Children (Basel).* 2022 Vol.9(3)P.:393. doi: 10.3390/children 9030393.

15. Alumran A, Almulhim L, Almolhim B, Preparedness and willingness of dental care providers to treat patients with special needs. *Clin Cosmet Investig Dent.* 2018. Vol.10. P.:231-236. doi: 10.2147/CCIDE.S178114.

16. Gaetano I, Santonocito S., Lupi S. Periodontal Health and Disease in the Context of Systemic Diseases, *Mediators of Inflammation,* 2023, Vol. 9, P. 19, https://doi.org/10.1155/2023/9720947

17. Ward LM, Cooper SA, Hughes-McCormack L. Oral health of adults with intellectual disabilities: a systematic review. *J Intellect Disabil Res*. 2019 Vol. 63(11) P.:1359-1378. doi: 10.1111/jir.12632.

18. Сухомейло Д.О., Рейзвіх О.Е., Шнайдер С.А., Христова М.Т. Сучасні тенденції профілактики та лікування стоматологічних захворювань у дітей з патологією опорно-рухового апарату. *Вісник стоматології.* 2024. №2. С.132-139. DOI: https://doi.org/10.35220/2078-8916-2024-52-2.19.

19. Sachse C, Jacob R. Optimizing Dental Care for Adults With Intellectual and Developmental Disabilities: Challenges, Strategies, and Preventative Approaches. *Cureus.* 2024 Vol. 2 P.72871. doi: 10.7759/cureus.72871.

20. Дячук Д., Мороз Г., Гідзинська І. Кравченко А. Запровадження пацієнт-орієнтованого підходу та удосконалення організації медичної допомоги на сучасному етапі (огляд літератури). *Клінічна та профілактична медицина,* 2023. № 1(23). С.67-77. https://doi.org/10.31612/2616-4868.1(23).2023.10?

21. Glassman P. A review of guidelines for sedation, anesthesia,and alternative interventions for people with special needs. *Spec Care Dentist.* 2009 Vol. 29(1) P.9-16. doi: 10.1111/j.1754-4505.2008.00056.x

22. Sarvas E, Webb J, Landrigan-Ossar M, Yin L; Section on oral health; council on children with disabilities; section on anesthesiology and pain medicine. Oral Health Care for Children and Youth With Developmental Disabilities: Clinical Report. *Pediatrics.* 2024 Vol. 154.P:e2024067603. doi: 10.1542/peds.2024-067603.

23. Круть А. Г. Критерії та індикатори якості стоматологічної допомоги: стан розробки та використання. *Український журнал медицини, біології та спорту.* 2021. № 5 (33), С. 285-293. DOI: 10.26693/jmbs06.05.285

24. Мазур І.П., Добровинська О.В., Венцурик Ю.О. Взаємозв'язок генералізованого пародонтиту та підвищеного рівня продукції паратиреоїдного гормону. *Стоматологічне та загальне здоров'я / Oral and General Health.* 2024. Т. 5, № 1. С. 10–13. DOI: 10.22141/ogh.5.1.2024.181.

25. Кравець О.В., Єхалов В.В., Сединкін В.А., Романюта І.А. Стоматологічні та анестезіологічні проблеми у нікотинозалежних осіб (літературний огляд). *Oral and General Health*. 2024. Т. 5, № 2. С. 66–75. DOI: 10.22141/ogh.5.2.2024.193.

26. Natarajan P., Madanian S., Marshall S. Investigating the link between oral health conditions and systemic diseases: a cross-sectional analysis. *Scientific Reports.* 2025. Vol. 15, No. 1. Art. 10476. DOI: 10.1038/s41598-025-92523-6.

27. Скибчик О. В. Етіологічні й патогенетичні аспекти взаємозв'язку генералізованого пародонтиту та ішемічної хвороби серця (огляд літератури та власні дані). *Праці Львівського лікарського товариства / Practical Medicine.* 2022. Т. 11, № 1. С. 65–72.

28. Touger-Decker R., Mobley C. C. Diet, cardiovascular disease and oral health. *The Journal of the American Dental Association*. 2010. Vol. 141, No. 3. P. 243–249. DOI: 10.14219/jada.archive.2010.0164.

29. Senirkentli G. B., Tirali R. E., Bani M. Assessment of dental pain in children with intellectual disability using the dental discomfort questionnaire. *Journal of Intellectual Disabilities.* 2022. Vol. 26, No. 2. P. 307–318. DOI: 10.1177/1744629520981318.

30. Шпак С. В., Струк В. І., Герман Л. В. Стан твердих тканин зубів у дітей із сенсорною депривацією зору. *Світ медицини та біології.* 2023. № 1(83). С. 184-187. DOI 10.26724/2079-8334-2023-1-83-184-187

31. Fahmi M. K., Basha S., Noor Mohamed R., Multifactorial Analysis of Oral Health-Related Quality of Life in Children with Special Health Care Needs: A Case-Control Study. *Healthcare.* 2025. Vol. 13, No. 8. Art. 919. DOI: 10.3390/healthcare13080919.

32. Schulze-Späte U., Sharma P., Konkel J. E. Crosstalk between periodontitis and cardiovascular risk. *Current Oral Health Reports.* 2024. DOI: 10.1007/s40496-024-00434-7.

33. Lim M. A. W. T., Borromeo G. L. Perceived barriers encountered by oral health professionals in the Australian public dental system providing dental treatment to individuals with special needs. *Special Care in Dentistry*. 2021. Vol. 41, No. 3. P. 381–389. https://doi.org/10.1111/scd.12581

34. Барковська А. Д., Ляхова Н. О. Вплив рівня освіти на стоматологічну тривожність та взаємовідносини лікаря-стоматолога і пацієнта. *Медицина сьогодні і завтра.* 2023. Т. 92, № 2. С. 33–41. DOI: 10.35339/msz.2023.92.2.bak.

35. Rebotim E. D., Björk M., Berlin H., Primary caregivers' perceptions of challenges in dental and orthodontic care for children with Down syndrome. *International Dental Journal.* 2026. Article 104016. DOI: 10.1016/j.identj.2025.104016.

36. Thomas N., Blake S., Morris C., Moles D. R. Autism and primary care dentistry: parents' experiences of taking children with autism or working diagnosis of autism for dental examinations. *International Journal of Paediatric Dentistry.* 2018. Vol. 28, No. 2. P. 226–238. DOI: 10.1111/ipd.12345.

37. Verbovska R. I. Деонтологічний підхід до підготовки майбутніх лікарів-стоматологів. Актуальні проблеми сучасної медицини: *Вісник Української медичної стоматологічної академії.* 2019. Т. 19, № 1. С. 93–96. DOI: 10.31718/2077-1096.19.1.93.

38. Park B. Y., Park Y. M., Kim N. H. Disparity in access for people with disabilities to outpatient dental care services: a retrospective cohort study. *BMC Oral Health.* 2023. Vol. 23. Article 287.

39. Скибчик О. В. Етіологічні й патогенетичні аспекти взаємозв'язку генералізованого пародонтиту та ішемічної хвороби серця (огляд літератури та власні дані). *Практична медицина.* 2022. Т. 28, № 1. С. 65–72.

40. Glassman P., Subar P. Improving and Maintaining Oral Health for People with Special Needs. *Dental Clinics of North America.* 2009. Vol. 53, No. 2. P. 343–363. DOI: 10.1016/j.cden.2008.12.001.

41. Nqcobo C., du Plessis J. B. The experiences of patients with disabilities in accessing oral health services: a systematic review. *Disability and Rehabilitation.* 2019. Vol. 41, No. 25. P. 2973–2984. DOI: 10.1080/09638288.2018.1473503.

Information about the author:
Sydor Oleksandr Viktorovych,
Doctor of Philosophy,
Assistant Professor at the Department of Propaedeutic
and Surgical Dentistry
Zaporizhzhia State Medical and Pharmaceutical University
26, Marii Prymachenko boulevard, Zaporizhzhia, Ukraine