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Medical and social determinants of dental health of the female population

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The dental health of the female population is an important component of public health, the formation of which is influenced by a complex of medical, biological, social, and behavioral factors. Hormonal changes in different periods of a woman's life, socio-economic status, level of medical literacy, lifestyle, availability of dental care and preventive practices are of particular importance. The cumulative effect of these factors determines the prevalence of dental diseases, the timeliness of their detection, treatment, and the effectiveness of preventive measures.

Aim – to conduct an analysis of modern scientific data on the medical and social determinants of dental health of the female population and to determine the main factors that affect the state of oral health and the availability of dental care.

A systematic review of the scientific literature was conducted in accordance with the generally accepted principles of evidence-based medicine. Information search was carried out in international scientometric databases PubMed, Scopus, Web of Science, and Google Scholar. Scientific publications published during 2015–2025, devoted to the study of medical and social determinants of women's dental health, accessibility of dental care, prevention of dental diseases, and organizational aspects of providing dental care to the female population, are included in the analysis. During the research, methods of systematization, bibliosemantic analysis, comparison, generalization and synthesis of scientific data were used. It has been established that the dental health of women is formed under the influence of interrelated biological and social factors. Hormonal changes associated with puberty, pregnancy, and menopause may increase the risk of dental disease, while socioeconomic inequalities, educational attainment, financial resources, medical awareness, and limited access to dental care negatively influence preventive behavior and timeliness of treatment. The generalization of literary data indicates the essential role of medical and social determinants in the formation of inequality in the dental health of the female population.

Conclusions. The analysis of scientific sources confirms that the dental health of the female population is determined by a complex of interrelated medical and social factors. Improving the effectiveness of dental disease prevention, ensuring equal access to dental care and implementing intersectoral measures aimed at reducing social inequalities are important components of maintaining women's dental health.

The authors declare no conflict of interest.

Keywords: dental health, female population, medical and social determinants, dental care, public health.

Медико-соціальні детермінанти стоматологічного здоров'я жіночого населення

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Стоматологічне здоров'я жіночого населення є важливою складовою громадського здоров'я, на формування якого впливає комплекс медичних, біологічних, соціальних та поведінкових чинників. Особливе значення мають гормональні зміни в різні періоди життя жінки, соціально-економічний статус, рівень медичної грамотності, спосіб життя, доступність стоматологічної допомоги та профілактичні практики. Сукупний вплив цих факторів визначає рівень поширеності стоматологічних захворювань, своєчасність їхнього виявлення, лікування та ефективність профілактичних заходів.

Мета – провести аналіз сучасних наукових даних щодо медико-соціальних детермінант стоматологічного здоров'я жіночого населення та визначити основні фактори, які впливають на стан здоров'я порожнини рота і доступність стоматологічної допомоги.

Проведено систематичний огляд наукової літератури відповідно до загальноприйнятих принципів доказової медицини. Інформаційний пошук здійснено в міжнародних наукометричних базах даних PubMed, Scopus, Web of Science та Google Scholar. До аналізу включено наукові публікації, опубліковані протягом 2015–2025 років, присвячені вивченню медико-соціальних детермінант стоматологічного здоров'я жінок, доступності стоматологічної допомоги, профілактики стоматологічних захворювань та організаційних аспектів надання стоматологічної допомоги жіночому населенню. Під час дослідження використано методи систематизації, бібліосемантичного аналізу, порівняння, узагальнення та синтезу наукових даних. Встановлено, що стоматологічне здоров'я жінок формується під впливом взаємопов'язаних біологічних та соціальних факторів. Гормональні зміни, пов'язані з періодами статевого дозрівання, вагітності та менопаузи, можуть підвищувати ризик розвитку стоматологічної патології, тоді як соціально-економічні нерівності, рівень освіти, матеріальне забезпечення, медична обізнаність та обмежений доступ до стоматологічної допомоги негативно впливають на профілактичну поведінку та своєчасність лікування. Узагальнення літературних даних свідчить про суттєву роль медико-соціальних детермінант у формуванні нерівності щодо стоматологічного здоров'я жіночого населення.

Висновки. Аналіз наукових джерел підтверджує, що стоматологічне здоров'я жіночого населення визначається комплексом взаємопов'язаних медичних та соціальних чинників. Підвищення ефективності профілактики стоматологічних захворювань, забезпечення

рівного доступу до стоматологічної допомоги та впровадження міжсекторальних заходів, спрямованих на зменшення соціальних нерівностей, є важливими складовими збереження стоматологічного здоров'я жінок.
Автори заявляють про відсутність конфлікту інтересів.
Ключові слова: стоматологічне здоров'я, жіноче населення, медико-соціальні детермінанти, стоматологічна допомога, громадське здоров'я.

Introduction

Dental health is an important component of general human health and one of the key indicators of population well-being. According to international studies, diseases of the oral cavity remain one of the most common non-infectious diseases in the world and significantly affect the quality of life, work capacity, and social functioning of the population. The female population needs special attention, since the dental status of women is formed under the influence of a complex of biological, medical, socio-economic, and behavioral factors that change during different periods of life [3].

Physiological hormonal changes associated with puberty, pregnancy, lactation, and menopause may contribute to the development or progression of dental pathology, including periodontal disease, tooth decay, and lesions of the oral mucosa. At the same time, modern scientific research shows that biological factors are not the only determinants of dental health. The social conditions of life, level of education, financial support, medical literacy, peculiarities of eating behavior, the presence of bad habits, as well as the availability and timeliness of receiving dental care, have a significant influence [2].

The concept of social determinants of health, proposed by the World Health Organization, considers health as the result of the interaction of individual and social factors that determine a person's ability to maintain an adequate level of health and receive the necessary medical care. In this context, women's dental health should be considered as a multifactorial phenomenon that depends not only on clinical aspects, but also on the effectiveness of the organization of the health care system, the implementation of preventive programs, and the elimination of social inequalities [5].

Despite a significant number of scientific works devoted to certain aspects of women's dental health, research results are often fragmentary and do not form a holistic view of the role of medical and social determinants in the occurrence and spread of dental pathology. Generalization of modern scientific data is necessary to determine the most significant risk factors, assess their impact on the availability of dental care, and develop effective preventive and organizational measures [1].

In this regard, conducting a systematic review of the literature devoted to the medical and social determinants of dental health of the female population is relevant and has important theoretical and practical significance for the improvement of the public health system and the organization of dental care [19].

Aim – to conduct an analysis of modern scientific data on the medical and social determinants of dental health of the female population and to determine the main factors that affect the state of oral health and the availability of dental care.

The research was carried out in the format of a systematic review of scientific literature. The methodological basis of the work was the generally accepted principles of conducting systematic reviews in evidence-based medicine and the recommendations of PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses), which ensure transparency and reproducibility of the process of searching, selecting, and analyzing scientific sources.

Information search was conducted in the international scientometric databases PubMed, Scopus, Web of Science, and Google Scholar. The analysis included scientific publications published in the period 2015–2025, which covered the issues of women's dental health, the impact of medical and social determinants on the state of the oral cavity, the availability of dental care, the prevention of dental diseases, and organizational aspects of providing medical care to the female population.

The literature search was carried out using keyword combinations. The review included original studies, systematic reviews, meta-analyses, and analytical publications that were relevant to the research objective. Works whose full text was unavailable, duplicate publications, conference abstracts, and articles that did not contain sufficient information on the researched issues were not taken into account.

In the process of work, the bibliosemantic method, the method of content analysis, systematization, and generalization of scientific data were used. To interpret the obtained results, comparative and analytical approaches were used, which made it possible to determine the main medical and

social factors that affect the dental health of women, as well as to outline modern trends and problematic aspects of the organization of dental care for the female population.

A systematic analysis of modern scientific literature showed that the dental health of the female population is formed under the influence of a complex interaction of medical, biological, socio-economic, and behavioral factors [4]. The generalization of the results of the studied studies shows that it is the concept of medical and social determinants that allows the most complete explanation of the existing differences in the prevalence of dental diseases, the levels of seeking dental care and the effectiveness of preventive measures among women of different ages and social groups [13].

One of the key medical factors that determines the characteristics of women's dental health is hormonal changes that accompany different stages of life. The analysis of literary sources confirmed that during puberty, pregnancy, and menopause, there are changes in the condition of periodontal tissues, the microbiome of the oral cavity, and local immune protection, which increases the risk of developing inflammatory processes and caries [10]. Special attention in research is paid to pregnant women, since physiological changes in the body can lead to an increase in the prevalence of gingivitis in pregnant women and exacerbation of existing dental diseases. At the same time, most authors emphasize that timely preventive measures and regular dental examinations can significantly reduce the risk of complications [7].

The analysis of scientific publications proved that, along with biological factors, socio-economic living conditions play a leading role in shaping women's dental health.

Low income, lack of education and limited access to health services are associated with a higher prevalence of dental caries, periodontal disease, and tooth loss [15]. Many studies have found that women of lower socio-economic status are less likely to undergo preventive dental examinations and are more likely to seek help only in case of pain or other complications. At the same time, persons with a higher level of education demonstrate better adherence to preventive programs and a more responsible attitude to oral hygiene [9].

Among the important determinants of dental health, a special place is occupied by the medical literacy of the population. The results of the analyzed studies show that the insufficient level of knowledge about the risk factors of dental diseases, methods of prevention, and the need for regular preventive examinations negatively affects the dental status of women. It has been established that informational and educational programs contribute to increasing adherence to a healthy lifestyle and the formation of skills in rational care of the oral cavity [18].

A significant number of studies have analyzed the influence of behavioral factors on the dental health of the female population. Irrational nutrition, excessive consumption of carbohydrates, smoking, insufficient oral hygiene, and irregular preventive examinations are identified as the main modifiable risk factors for the development of dental pathology [14]. At the same time, it was established that women generally take more responsibility for their own health, but the level of preventive activity largely depends on the social environment and the availability of dental services [12].

The analysis of the literature also showed that the availability of dental care is one of the determining factors in maintaining dental health. In many countries, financial barriers remain a significant obstacle to timely treatment, especially for socially vulnerable categories of the female population [6]. Lack of insurance coverage for dental services, uneven distribution of medical resources between urban and rural areas, as well as insufficient development of preventive programs negatively affect dental health indicators [11]. Researchers note that the integration of preventive dentistry into the system of primary medical care and programs for the protection of motherhood and childhood can help increase the level of early detection of dental pathology among women [8].

An important result of the analysis was the establishment of a relationship between dental health and the general state of health of women.

In modern publications, more and more attention is paid to the role of periodontal diseases in the development or progression of chronic non-infectious diseases, as well as the possible impact of dental pathology on the course of pregnancy [16]. This indicates the need to use a multidisciplinary approach to preserving women's health and strengthening interaction between dentists, family doctors, obstetricians-gynecologists and other specialists [17].

The obtained results confirm the modern concept according to which dental health is an integral indicator that reflects not only the biological state of the organism, but also the influence of a wide range of social, economic, and organizational factors. Summarizing the literature data shows that the traditional approach, which considers dental diseases exclusively as a consequence of local pathological processes, does not allow for fully explaining the existing differences in the levels of dental health among different groups of the female population [7,12,15].

The concept of social determinants of health, which considers inequality in access to medical care, level of education, economic situation and living conditions as key factors in shaping the health of the population, is of particular importance. The results of the systematic review show that it is socio-economic inequalities that significantly affect the timeliness of women seeking dental care, their adherence to preventive examinations, and the quality of oral hygiene care [4,7,18].

This is consistent with modern international approaches to the development of public health systems, which are focused on disease prevention and reducing the impact of social risk factors [11,12,18].

The analysis of literary sources showed that women have specific biological characteristics that must be taken into account when organizing dental care. Periods of pregnancy and menopause are accompanied by an increased need for preventive measures and dental support. At the same time, in many countries, there are no specialized programs for dental monitoring of women, which limits the possibilities of early detection of pathology and timely treatment [8,12,15].

An important component of improving dental care is increasing the level of medical literacy of the population. The results of the review demonstrate that informational and educational measures have a positive effect on the formation of health-preserving behavior and increase adherence to preventive examinations. This creates the basis for the development of comprehensive public health programs aimed at popularizing preventive dentistry among the female population [1,5,6,17].

At the same time, a systematic review revealed certain limitations of modern scientific research. A significant part of the works is devoted to certain aspects of women's dental health, while comprehensive studies that simultaneously take into account medical, social and organizational factors remain insufficiently represented. In addition, differences in study design, methods of dental status assessment, and characteristics of the studied groups make it difficult to directly compare the obtained results [6,9,13,16].

The results of the conducted systematic review show that ensuring proper dental health of the female population requires a comprehensive interdisciplinary approach, which should combine preventive measures, increasing the availability of dental care, reducing the impact of social inequalities and improving the organization of the health care system. The implementation of such approaches will contribute to improving the dental status of women, improving their quality of life, and strengthening public health in general.

Conclusions

A systematic review of the scientific literature proved that the dental health of the female population is formed under the influence of a complex of interrelated medical, biological, socio-economic, and behavioral determinants. The analysis of modern research has confirmed that hormonal changes in different periods of a woman's life, level of education, financial situation, medical literacy, lifestyle features, and availability of dental care significantly affect the prevalence of dental diseases and the timeliness of their prevention and treatment.

Summarizing the literature data shows that social inequalities and organizational barriers remain important factors in the deterioration of women's dental health, especially among socially vulnerable population groups. At the same time, raising the level of medical awareness, developing preventive programs, and ensuring the availability of dental services can significantly improve oral health indicators.

The obtained results confirm the need to implement a complex interdisciplinary approach aimed at integrating preventive dentistry into the public health system and improving the organization of dental care for the female population. A promising direction of further research is the development of effective prevention models that will take into account the influence of medical and social determinants and contribute to the reduction of inequalities in women's dental health.

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