

Dental morbidity in Russia

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Abstract

At present, the most common dental diseases in most regions of Russia are caries, periodontal diseases, and dentofacial anomalies. A literature review was carried out on the prevalence of major dental diseases in Russian adult. The study aimed to analyze the literature on dental morbidity in Russia in the following areas: assessment of the prevalence, intensity, and treatment need of major dental diseases, depending on regional particularities, age, and sex differences. Caries and periodontal diseases are a major medical and social problem. The results of recent epidemiological studies have shown that almost the entire Russian adult has signs of these diseases. There is also a high rate of dental anomalies in children. The high prevalence of dental diseases indicates the need to strengthen the role of preventive work in the doctor's work. In conducting prevention program, it is important to consider the prevalence and intensity of major dental diseases which have pronounced regional particularities. Dental practice in recent years has shown that as a result of a targeted and effective preventive program, you can significantly reduce the level of dental morbidity. **Keywords:** dental caries, periodontal diseases, dentofacial anomalies, the intensity of caries, the prevalence of dental caries.

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Pathological lesions affecting the hard tissues of the teeth, periodontal diseases, pathological grinding, and partial or complete anodontia represent approximately 95% of all dental diseases observed in Russia [1]. Professor V.K. Leontyev at the Russian Academy of Medical Sciences noted that, despite considerable achievements in the prevention of dental caries, the disease still exhibited high prevalence globally [2]. A study conducted in the Central Federal District and Siberia reported 75%–95% prevalence of dental diseases among children, with the corresponding values in the adult population being 100% [3,4].

Several studies examining the oral health status of the Russian population [3,5–10] found a rapid increase in the prevalence of dental diseases over the last 12 years and this was accompanied by a rise in the demand for appropriate treatment from 40% to 75% [11–15]. Moreover, oral hygiene coverage decreased from 85% to 45%, and the frequency of related complications and number of succedaneous teeth being removed increased [16]. A recent study examining the distribution of dental caries and associated complications in the population of St. Petersburg found that only 28% of the total number of teeth examined in a population aged 12 to 65

years were intact. Additionally, approximately 33% of the teeth required treatment, of which 19% were due to complications caused by caries [17]. Another epidemiological study conducted in Novosibirsk reported similar findings, with dental caries being the most frequently observed dental diseases [4].

Research focusing on the prevalence and intensity of dental caries in adults aged 35–44 years found that the prevalence of the disease ranged between 60% to 100% in various regions of Russia, while the intensity varied from low to very high [5,9,10,12,14,18–23].

The second national epidemiological study, conducted in 2008, examined the oral health status of residents in 47 regions of the Russian Federation and found a high prevalence of severe dental caries accompanied by an increase in the number of teeth being removed with age [24,25]. Upon examining the indicators of the incidence of dental caries among the adult population of Moscow aged 20–60 years and older showed that the prevalence of dental caries in all age groups amounted to 100%. Moreover, filled teeth accounted for the majority (42.4%) of the CRR (caries-restoration-removal) index in this population (residents of Moscow), with the corresponding proportions being approximate-

ly 60% and 50% in residents aged 20–29 years and 30–39 years, respectively. Untreated carious teeth accounted for 11.5% of all teeth examined, with the corresponding proportions in the 20–29 year and 30–39 year age groups being 20% and 15%, respectively [5].

An epidemiological study conducted in 2013 and examining the distribution of dental caries among key age groups in Saratov (which was excluded from the national oral examination conducted in 2008) found extremely high prevalence rates of 100% and evidence of severe dental caries (15.28 on the CRR index; slightly higher than the national average value of 13.93) [12].

The demand for dental care in the urban population was found to be significantly higher than that observed in the rural population, although previous studies suggested that the intensity of caries did not differ significantly between cities with extensive dental services and rural areas without the same [26,27]. It was also suggested that this would not change until prevention measures were established as an obligatory component of dental visits.

It has been suggested that women tend to visit the dentist more frequently compared to men, and this could be attributed to the higher level of carious destruction and more attentive attitude toward health observed in this group. A study conducted in Belgorod in 2005 showed that 63.2% of the total number of patients visiting a dental clinic for prevention and oral hygiene activities were women [28].

However, previous surveys have shown no significant differences in the severity of caries between men and women, with the former exhibiting more severe caries before the age of 25 and the latter presenting with higher CRR scores between the ages of 25 and 34. The need for mouth sanitation among women is on average 88.1% [29].

The results of another study [30] indicate differences in the volumes of consumption of dental services by men and women, as on average, it is 15% more than the amount of services provided to women, which must be taken into account when arrangement the territorial volumes of dental care.

A study examining the prevalence and intensity of dental caries among key age groups in the adult population of Saratov reported higher values for the “caries” and “restoration” components of the CRR index and lower values for the “removal” component among women aged 35–44 years compared with men of the same age group [12].

Periodontal diseases also represent a major medical and social problem, and previous epidemiological studies showed that practically the entire adult population of Russia exhibited signs of this disease, with prevalence rates ranging between

4.2% and 98% [31–33]. Moreover, the prevalence and severity of inflammatory periodontal diseases appeared to increase significantly with age (from 83% in the adult population aged 35–44 years up to approximately 100% in patients aged 65 years and older) [34–36].

A high prevalence and pronounced variability of dento-alveolar abnormalities was also observed in Russia [13,37–39], particularly in the pediatric population which exhibited rates ranging between 31.9% and 86.1% [40,41]. The relationship between dento-maxillofacial abnormalities, dental caries and related complications, and periodontal diseases is well known [34,42].

It has been suggested that the deterioration of the oral health status of Russians was associated with the changes in the socio-political system of the country, the transition to new economic conditions for management, and the shortage of state funding for healthcare institutions [43–45].

A.V. Alimsky and L.A. Markina (2008) proposed that the higher incidence of outpatient visits for treatment instead of prevention could be attributed to the high costs associated with dental visits [5], while another study suggested that it was associated with a lack of proper motivation for prevention and treatment of dental caries [17].

Clinical and epidemiological examination of 731 patients aged between 20–29 to 60 years and older who sought dental care in Lobnya and Moscow showed that the population of Lobnya exhibited significantly better indicators of oral hygiene compared to the residents of Moscow. However, the number of dental professionals per 10,000 population was approximately two-fold higher in Moscow compared to Lobnya, suggesting a need to increase the number of available healthcare professionals, their intensity of work, as well as the development of a greater interest in the results of their own work [11].

T.L. Marugina, V.V. Kan, and A.K. Yarkin suggested that planned oral cavity hygiene maintenance via voluntary health insurance programs and health education of the population living in the remote northern regions of the Krasnoyarsk Territory was necessary [45].

The high prevalence and increasing severity of dental diseases indicate the need for a consolidated effort to include preventive measures as part of regular dental check-ups [9], taking into consideration the regional characteristics as well as prevalence and intensity of major dental diseases [46,47].

The findings of this study show that the distribution of dental diseases in Russia varies considerably with region, age, and gender, and these should be taken into consideration when implementing preventive measures.

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