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**B.S. Baimanov** - PhD student on the specialty "Public health care", Kazakhstan Medical University "High School of Public Health Care", Almaty, ORCID: <https://orcid.org/0000-0001-6213-9508>, [Beimbetbaymanov@gmail.com](mailto:Beimbetbaymanov@gmail.com), phone: +7 -702- 152- 22 -53

**M.K. Kulzhanov** - doctor of medical science, professor of politics and management department of Kazakh National Medical University named after S. Asfendiyarov, Almaty, ORCID: <https://orcid.org/0000-0002-9701-4016>, [mkkutzhan@gmail.com](mailto:mkkutzhan@gmail.com), phone: +7-777-227-76-82

**A.T. Zhumabekov** - doctor of medical science, professor, Kazakhstan Medical University "High School of Public Health Care", Almaty, vice-rector for clinical work, ORCID: <https://orcid.org/0000-0002-3502-4411>, [jumabekov@mail.kz](mailto:jumabekov@mail.kz), phone: +7-701-741-44-37

**A.K. Baimanova** - senior lecturer of the department of clinical disciplines, Al-Farabi Kazakh National University, Almaty, ORCID: <https://orcid.org/0009-0007-4674-5293>, [Aselbaimanova123@gmail.com](mailto:Aselbaimanova123@gmail.com), phone: +7-777- 012-81-57

**M.Z. Sarsenbayeva** - candidate of medical sciences, Kazakhstan Medical University "High School of Public Health Care", senior lecturer of the department of public health and social disciplines, ORCID: <https://orcid.org/0000-0002-0921-2224>, [maira.sarsenbaeva@mail.ru](mailto:maira.sarsenbaeva@mail.ru), phone: + 7-747–815-10-75

**EPIDEMIOLOGY AND RISK FACTORS OF HEMORRHOIDS**

**Abstract.** Hemorrhoids are an urgent problem of public health care, among the pathologies that are widespread among caloproctological diseases and affect the quality of life of a person. Risk factors affecting the frequency of the disease among the population include age, gender, pregnancy, obesity, low anxiety, etc. however, data on each factor are conflicting. This mini-review focuses on the prevalence and risk factors of hemorrhoids.

**Key words.** Hemorrhoids, prevalence, risk factors, incidence, patient.

**Hypothesis.** Hemorrhoid disease is one of the common inflammatory bowel diseases among the population, and early detection of its risk factors among population groups prone to these factors allows to reduce the spread and complications of the disease, and through this, it is possible to improve the quality of life of the population.

**Relevance.** Hemorrhoids are one of the urgent diseases of public health [1]. According to Tournus J., Abramowitz L., Couffignal S. (2017), among anorectal pathologies among the population, hemorrhoids are widespread [2], but there are no real data on the prevalence of this disease in society, because it is known that people with hemorrhoids do not always seek medical help. According to French scientists (Abramowitz L., Benabderrahmane M., Pospite D., Philip J., Lauenan S.2014), the prevalence of the disease among adults is 4-7% [3], the prevalence of hemorrhoids in countries such as the USA, Spain, and Japan 4, 13, 17% [4,5].

**Purpose of the work.** Analysis of the prevalence of hemorrhoids and factors causing the development of the disease based on a review of the literature.

**Materials and methods of the study.** In a mini-review, the authors present the results of the 11-year (2002-2022) research on literary sources of PubMed, Google Scholar, CrossRef databases. The article reviewed works in Russian and English languages. The last literary search was made on 31.12.2024.

**Results of the study.** As a result of the analysis of 45 literary sources during the study of the selected topic, the following information was obtained. Hemorrhoids are a disease with high epidemiological indicators and impact on the quality of life of the population [6]. Hemorrhoids are one of the diseases that people turn to specialists for medical help. The prevalence of the disease is 130-145 per 1000 people, the prevalence in the group of colon diseases is 34-41%. The prevalence among the general population is 4.4%. This figure is equal to 38.9% in Austria, 16% in Israel, and 14.4% in Korea [7,8]. According to Sakr M, Saed K. (2014), the prevalence of hemorrhoids is 4.4% - 36.4%, and according to the age group, the maximum incidence is 45-65 years old [9].

According to the research results of a number of authors, the number of hemorrhoids is equal to the following amounts: in Great Britain - 13-36%, in Africa - 38.8%, in Bangui - 58.8%, in Mali - 30.4% (Coulibaly A., Kafando R., Somda K., Doamba K., Cura M., Somé C., Ouedraogo T. and Traore S. (2016) [10] The prevalence in the United States is equal to the worldwide prevalence and is equal to 10 million per year, equal to 4.4%. According to age groups, the disease is most often registered in the age group of 45-65 years, with equal data on gender distribution. According to Sun Z, Migaly J. (2016), in terms of racial distribution, it is more common in Europeans compared to Africans [6]. In the United States, this disease ranks fourth among the pathologies of the digestive tract, and the number of visits to the doctor for this disease is 3.3 million per year [11]. Kibret AA, Oumer M, Moges AM. (2021) [12] reported that the prevalence of hemorrhoids was 18% among colonoscopy patients in Egypt.

As mentioned above, the true picture of the incidence of hemorrhoids is unknown, the main reasons for this are the asymptomatic course of the disease in most patients, and the fact that patients do not seek specialized help. For example, 39% of those examined for colorectal cancer had hemorrhoids, while 55% had no clinical manifestations [13]. According to Russian scientists, in 2019, 498,990 of 1,188,588 complaints to coloproctologists were diagnosed with hemorrhoids in 41.9% of cases. In 2020, 422,976 of 1,206,963 patients (35.0%) received specialized care for hemorrhoids, and in 2021, 481,007 of 1,205,261 patients (39.9%) received specialized care for hemorrhoids [14,15].

According to the data of Russian scientists, there is a difference in the distribution of hemorrhoids between men and women, for example, the registration of hemorrhoids among men is 42.6-63% of cases, while among women it is 37-54.4% of cases. That is, the difference in the frequency of occurrence of the disease between men and women is equal to 5.6%-8.6% [15,16,17]. Hemorrhoids are more common among the adult population, and there are data on the registration of the disease in the age group of 4-18 years [18]. In the analysis of the age group of patients with hemorrhoids, the incidence rate was as follows in the studies of other scientists: 25-35 years old - 17.6%; 36-45 years - 21.5%; 46-55 years - 31.3%, 56-65 years - 13.7% and 66-85 years - 5.8% [14,19].

There are many questions about the cause, clinic and therapy of hemorrhoids. Today, despite the use of modern technologies, the number of patients who seek medical care in outpatient or hospital-type medical organizations is relatively high. The life of a modern person is characterized by little movement, besides, prolonged immobility leads to stagnation of blood circulation in the pelvic region, the mentioned process damages the rectum and causes hemorrhoids in most cases [20]. Thus, the risk factors of hemorrhoids include physical exertion, chronic constipation, hypodynamia, pathology of small pelvic organs, bad habits (alcohol), eating a lot of spicy and salty foods [14,18]. Perre et al. (2015) data on the relation between hemorrhoids and physical activity are contradictory, despite the fact that many authors associate hemorrhoids with hypodynamia. The authors ' research describes the beneficial aspects of physical activity for the body, for example, if it has a positive effect on the blood circulation of organs in the pelvic cavity and the timeliness of bowel movements, the lack of physical activity has a negative effect on constipation, the course of hemorrhoids, and causes relapses of the disease. In general, patients are recommended to do 20-60 minutes of moderate physical activity at least 3-5 times a week [21].

At the same time, factors that cause the development of hemorrhoids include: frequent large stools (bradyentery), this factor leads to hemorrhoids in 67% of cases, pregnancy and childbirth causes hemorrhoids in 98.1% of women, in addition, hereditary predisposition 47.7 % causes hemorrhoids, hypodynamia causes hemorrhoids in 23.2% cases, obesity causes hemorrhoids in 12.2% cases [14,22,23,24,25]. In practice, treating doctors encounter complex hemorrhoids with this factor in 33.8-60% of cases [26,27,28,29,30].

According to a number of authors, chronic hemorrhoids are at risk among working age groups. Problems with the digestive system are the main reason for the development of the disease, therefore, the main therapy of the disease is the correction of lifestyle and nutrition [31,32,33,34,35].

In addition, the factors that lead to the development of hemorrhoids include chronic constipation, prolonged straining during defecation due to the presence of hard stools, pregnancy, childbirth, increased intra-abdominal pressure, resulting in blockage of the veins, as well as hemorrhoids due to dysfunction of the anal sphincter, genetic predisposition, hemorrhoidal and drainage vessels. lack of valves will cause. Hemorrhoids are known to cause abnormal anal pressure fluctuations due to gastrointestinal tract dysfunction [32]. Peary AF, Sandler RS, Galanco JA, Bresalle RS, Figueiredo JC, Anen DD. (2015) in their research, analyzing 1074 patients with hemorrhoids, found that 25% of constipation, straining during defecation was the cause of this disease [36].

Riess S., Weiser FA, Schwameis K., Mittlebock M., Stift A. (2011) found that constipation was a risk factor for the development of hemorrhoids in 976 patients who underwent colonoscopy [37].

It should be noted that, according to a number of authors, pregnancy and the postpartum period are a risk factor for hemorrhoids [38,39]. Pregnancy and natural childbirth occur as a causative factor of hemorrhoids, the reason for which is constipation during pregnancy, a decrease in venous circulation due to an increase in the volume of circulating blood, the venodirelax effect of the progesterone hormone, an increase in the size of the uterus, and as a result, an increase in the pressure on the rectal veins. Gallo G, Martellucci G, Sturiale A, Clerico G, Milito G, Marino F, et al (2020) found that the prevalence of hemorrhoids during pregnancy is 25-35% in the last trimester of pregnancy and in the first month after childbirth, according to the results of a study among pregnant women. [40].

According to Abramowitz et al., 91% of cases of hemorrhoid thrombosis occur in the first day after childbirth, and in 14.5% of cases, hemorrhoid thrombosis occurs de novo after childbirth. The incidence of hemorrhoids in the later period after childbirth is 20%. The prevalence of hemorrhoids in the 3 months postpartum is 8-24%, the frequency of hemorrhoids in the period 3-6 months postpartum is 24%, and in comparison, the frequency of occurrence of hemorrhoids in the period 6 months postpartum is 15-16%. Symptomatic hemorrhoids are one of the most common anorectal diseases in women during pregnancy and postpartum.

In addition, symptomatic hemorrhoids during pregnancy, if previously unknown, are now accompanied by the following symptoms: bleeding, itching and pain in the anal area. Symptomatic hemorrhoids are mostly treated conservatively or on an outpatient basis [41], however, when these methods are ineffective, surgical treatment methods are used.

According to Jacobs D. (2014), in addition to the above-mentioned risk factors for hemorrhoids, excess weight, prolonged constipation, dietary fiber deficiency, pathological liver conditions such as ascites cirrhosis, and anal sex are the causes [42].

Riess S, Weiser FA, Schwameis K, Mittlebock M, Stift A. (2011) analyzed the correlation between body mass index (BMI) and risk factors for hemorrhoids among adults. According to the results of prospective studies conducted among 976 participants, hemorrhoids were detected in 380 patients (38.93%). Among them, 170 patients (44.74%) complained about the symptoms of hemorrhoids, while 210 patients (55.26%) said that there were no symptoms of this disease. Researchers noted that body mass index has a significant effect on the occurrence of hemorrhoids, and in their study, an increase in BMI increased the risk of hemorrhoids by 3.5% [37].

The next risk factor is the aging of the body, abdominal obesity, depression, addiction to spicy food, alcohol [43]. The risk factors for the development of hemorrhoids include physiological processes that lead to the weakening of supporting tissues [6].

Kibret AA, Oumer M, Moges AM. (2021) according to the results of a regression study, constipation and high body mass index are the main causes of hemorrhoids. For example, hemorrhoids were 4.32 times more common in people with constipation than in people without constipation. In patients with a body mass index greater than or equal to 25 kg/m2, hemorrhoids occurred 2.6 times more often than in patients with a body mass index below this value [44].

Oberi I.A., Omar Y., Alfaifi A.J. et al (2023) in their research on the risk factors of hemorrhoids noted that the main factor was lack of regular physical activity in 83% of cases, prolonged sedentary work during office work in 51% of cases, and consumption of food rich in saturated fat in 50% of cases. cause of this disease. Of the 159 study participants, 44% reported a family history of hemorrhoids. When talking about the defecation experiences of study participants, 51% of study participants reported straining during defecation in 25% of cases, 47% of participants mentioned stool hardness in 25% of cases, and participants in the sample complained of constipation three or more times a week [45].

In conclusion, hemorrhoids are an urgent problem of the public health system due to the high epidemiological indicators of the spread of the disease. The disease is more common among men. Constipation and overweight can be attributed to the main causative factors of the disease. However, it should be noted that hemorrhoids are common among pregnant women, as well as in the postpartum period.

It is recommended to carry out screening tests in medical organizations with the aim of early detection of the disease, prevention of complications of the disease and receiving specialized treatment for the population group with obesity and constipation as the main risk factor among the adult population, as a result of these preventive checks, the quality of life of the population will be improved.

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