

**INCIDENCE OF CHRONIC MYELOPROLIFERATIVE  
DISORDERS IN UZBEKISTAN**

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**Abstract:** Chronic myeloproliferative disorders (CMPDs) are a group of clonal hematopoietic stem cell diseases characterized by persistent proliferation of myeloid cell lineages in the bone marrow and peripheral blood. This group includes chronic myeloid leukemia, polycythemia vera, essential thrombocythemia, and primary myelofibrosis. The present study analyzes the incidence, epidemiological characteristics, and regional distribution of chronic myeloproliferative disorders in the Republic of Uzbekistan. The research is based on a retrospective analysis of available national publications and statistical reports. The results demonstrate that CMPDs are relatively rare in Uzbekistan; however, an increasing trend in detection has been observed in recent years, likely due to improvements in diagnostic methods and hematological services.

**Keywords:** chronic myeloproliferative disorders, chronic myeloid leukemia, epidemiology, incidence, Uzbekistan.

**Introduction**

Chronic myeloproliferative disorders are a heterogeneous group of malignant hematological diseases arising from clonal transformation of hematopoietic stem cells. These disorders are characterized by excessive production of mature blood cells, splenomegaly, thrombotic and hemorrhagic complications, and, in some cases, progression to acute leukemia.

According to the World Health Organization classification, chronic myeloproliferative disorders include chronic myeloid leukemia (CML), polycythemia vera (PV), essential thrombocythemia (ET), and primary myelofibrosis (PMF). Globally, CMPDs are considered rare diseases, with an annual incidence ranging from 0.5 to 2 cases per 100,000 population depending on the subtype.

In developed countries, the availability of national cancer registries and advanced molecular diagnostic techniques allows for accurate epidemiological assessment of CMPDs. In contrast, in many developing countries, including Uzbekistan, epidemiological data remain limited and fragmented. Therefore, studying the incidence of chronic myeloproliferative disorders in Uzbekistan is of significant scientific and

practical importance.

The aim of this study is to evaluate the incidence of chronic myeloproliferative disorders in Uzbekistan and to analyze available epidemiological data with particular emphasis on chronic myeloid leukemia.

### **Materials and Methods**

This study was conducted using a retrospective descriptive approach. Data were collected from the following sources:

- Publications from hematology centers and medical universities in Uzbekistan
- Scientific articles and academic dissertations
- National and regional health statistics reports

The study covered the period from 2004 to 2020. Incidence rates were calculated per 100,000 population. Due to the availability of more complete data, chronic myeloid leukemia was selected as the primary focus of epidemiological analysis.

### **Results**

#### **1. Incidence of Chronic Myeloid Leukemia**

Chronic myeloid leukemia was identified as the most frequently diagnosed chronic myeloproliferative disorder in Uzbekistan.

**Table 1. Incidence of chronic myeloid leukemia in Uzbekistan**

<b>Study period</b>	<b>Incidence rate (per 100,000 population)</b>
2004–2010	0.48
2011–2017	0.55
2018–2020	0.94
<b>Average</b>	<b>0.62</b>

#### **2. Number of Newly Diagnosed Cases**

In 2020, more than 100 new cases of chronic myeloid leukemia were registered nationwide. CML accounted for approximately 30% of all leukemia cases diagnosed during the same year.

#### **3. Regional Distribution**

The incidence of chronic myeloproliferative disorders varied significantly across different regions of Uzbekistan. Higher detection rates were observed in densely populated and industrialized areas, which may be attributed to environmental factors and better access to diagnostic facilities.

#### **4. Other Chronic Myeloproliferative Disorders**

Reliable national epidemiological data on polycythemia vera, essential thrombocythemia, and primary myelofibrosis are currently unavailable in Uzbekistan. Clinical observations indicate that these disorders occur considerably less frequently than chronic myeloid leukemia.

## Discussion

The incidence of chronic myeloproliferative disorders in Uzbekistan appears to be lower than that reported in many developed countries. This discrepancy may be explained by limited access to molecular diagnostic testing, delayed diagnosis, and the absence of a unified national registry.

The observed increase in the incidence of chronic myeloid leukemia in recent years is likely associated with improvements in hematological diagnostics, increased physician awareness, and wider implementation of cytogenetic and molecular testing methods.

Establishing a national registry for chronic myeloproliferative disorders would significantly improve epidemiological surveillance, enable early diagnosis, and support healthcare planning in Uzbekistan.

## Conclusion

1. Chronic myeloproliferative disorders are rare hematological malignancies in Uzbekistan.
2. Chronic myeloid leukemia is the most common subtype among chronic myeloproliferative disorders.
3. The average annual incidence of chronic myeloid leukemia in Uzbekistan is approximately 0.62 cases per 100,000 population.
4. Epidemiological data on other chronic myeloproliferative disorders remain insufficient.
5. Development of a national registry for chronic myeloproliferative disorders is essential for improving disease monitoring and patient care.

## References

1. Tefferi A. Myeloproliferative Neoplasms. *New England Journal of Medicine*, 2020.
2. World Health Organization. *WHO Classification of Tumours of Haematopoietic and Lymphoid Tissues*. WHO Press, 2016.
3. Goldman J.M., Melo J.V. Chronic Myeloid Leukemia. *Hematology*, 2018.
4. Salomova Y.N. Epidemiology of chronic myeloid leukemia in Uzbekistan. Tashkent Medical Academy, 2021.
5. Ministry of Health of the Republic of Uzbekistan. National hematology statistical reports.