

## Clinical and Etiological Profiles of Anemias in the Internal Medicine Department of Kara Teaching Hospital

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### ABSTRACT

**Objective:** The aim of this study was to describe the clinical and etiological profile of cases of anemia treated in the internal medicine department of Kara University Hospital.

**Method:** This was a retrospective study carried out over 3 years, from April 2020 to May 2023, which focused on patients admitted to the internal medicine department of Kara University Hospital for clinical and/or biological anemia.

**Results:** A total of 74 cases of anemia were identified during the study period out of a total of 2840 files examined, representing a frequency of 2.61%. The average age of patients with anemia was 45.12 years  $\pm$  16.91 with extremes ranging from 18 to 80 years and the M/F sex ratio was 0.76. Clinical signs were variable, dominated by asthenia, tachycardia, pallor and dizziness. The average hemoglobin level was 6.15 g/dl, with extremes of 2 and 11.50 g/dl. The anemia was normocytic in 51.4% of cases and severe in 52.70% of cases. The etiologies were varied, dominated by snakebite envenomations (32.43% of cases) and severe anemic malaria (24.32% of cases).

**Conclusion:** Anemia is a frequent reason for consultation/hospitalization in internal medicine at Kara University Hospital. It represents a real diagnostic challenge for the internist, sometimes in an emergency context. It is essential to research the etiology for better management.

### Keywords

Anemia, Clinical, Etiological, Internal medicine, Kara-Togo.

### Introduction

Anemia remains a major public health problem worldwide, due to its scale and severity [1]. It affects a significant proportion of the population at different ages. About 35% of the world's population suffers from anemia [2]. In fact, it affects more than 1.64 billion people, or 24.8% of the world population. The highest prevalence is reported in low- and middle-income countries with an overall frequency above 40% [3]. Anemia is a symptom of many diseases in medicine [4]. The etiology of anemia is multifactorial and depends on the physiological and biological characteristics associated with the individual's living conditions. Iron deficiency

continues to be the leading cause of anemia worldwide, and iron deficiency anemia has a profound effect on the lives of young children and premenopausal women in both low-income and developed countries [3]. **In 2019, anemia caused the loss of 50 million years of healthy life due to the disability it caused** [5]. We carried out this study to determine the clinical and etiological profile of anemia in the internal medicine department of the Kara University Hospital.

### Method

This is a descriptive and cross-sectional study with retrospective data collection. It took place during the period from April 2020 to May 2023 in the internal medicine department of Kara University Hospital. Patients followed in the internal medicine department for

anemia were included in this study. The parameters studied were sociodemographic, clinical signs and etiologies. The diagnosis of anemia was made based on a hemoglobin level < 13g/dl in men and 12g/dl in women.

- We classified anemia according to:
- the results of the **mean corpuscular volume (MCV)** which made it possible to define:
    - microcytic anemia (VGM < 80 fl),
    - macrocytic anemia (VGM > 100 fl),
    - normocytic anemia (80 fl < MCV < 100fl)
  - degrees of anemia: 3 degrees of anemia had been defined:
    - Mild: Hb > 9g/dl
    - moderate: between 6 and 9 g/L
    - severe: Hb < 6 g/L

Result

During the study period, out of 2840 patients received, 74 cases of anemia were recorded, representing a frequency of 2.61%. The average age was 45.12 years +/- 16.91 with extremes ranging from 18 to 80 years. The most represented age group was [18-40 [in 48% of cases. There were 42 (56.76%) women with a M/F sex ratio of 0.76. Housewives represented 40.5% of cases followed by artisans/workers/farmers 32.5% of cases. Married people were in a proportion of 71.62%. In the antecedents, there were 24.32% chronic alcoholism, 14.86% people living with HIV, 13.51% hypertension, 6.76% sickle cell patients (SS in 60% of cases and SC 40%), and 5.41% diabetes. The clinical signs were variable with predominance of asthenia, tachycardia, pallor and dizziness in 64.86%, 55.41%, 54.35% and 41.89% respectively table 1.

Table 1: Circumstances of discovery of anemia.

	Numbers	%
Asthenia	48	64.86
Tachycardia	41	55.41
Pallor	40	54.35
Dizziness	31	41.89
Exertional dyspnea	18	24.32
Bleeding	15	20.27
Edema of the lower limbs	12	16.22
Fortuitous	10	13.51
Splenomegaly	9	12.16
Facial swelling	7	9.46

The anemia was normocytic in 51.4% of cases, microcytic in 43.2% of cases, and macrocytic in 5.4% of cases. Depending on the severity, anemia was severe in 39 patients (52.70% of cases), moderate in 23 patients (31.08% of cases) and mild in 12 patients (16.22% of cases). The etiologies were varied, dominated by snakebite envenomations (32.43% of cases) and severe anemic malaria (24.32% of cases) table 2.

Table 2: Different etiologies of anemia.

	Effective	%
Snake bite envenomation	24	32.43
Severe malaria anemic form	18	24.32
Gastropathies	10	13.51
HIV*	09	12.16
HTA** thrust	05	6.76
Uterine fibromyoma	04	5.41
Hematological malignancy	02	2.70
Gastroenteritis in the elderly	02	2.70

\*HIV: Human Immunodeficiency Virus  
\*\*HTA: high blood pressure

Discussion

Anemia represents a frequent reason for consultation encountered in our practice. In all developing countries, anemia represents the most common health problem affecting all age groups of the population. Our study made it possible to provide the main characteristics of anemia in people admitted to the internal medicine department of Kara University Hospital. The frequency of anemia was 2.61. Djagadou et al. reported a frequency of 3.23% [6]. The average age of our patients was 45.12 years. Our result is similar to that of Doumbia et al. [7], El Hioui et al. [8], Balaka et al. [9] and de Faye et al. [10] who respectively reported average ages of 40 years, 41 years, 43.58 years and 46 years. The most represented age group was 18-40 years old; Sangaré et al. found an age group of 26-35 years old [11]. Housewives represented 40.5%. Our result is similar to that of Doumbia et al. who reported that housewives constituted the largest professional group in 45.05% of cases.

In our series, a female predominance was established in 56.76% of cases, which is consistent with literature data. The female predominance had been noted by other authors [7,9,12,13]. African women in general are most often more exposed to anemia than men due to their multiple pregnancies close together, geophagia and pathologies of the cervicovaginal sphere (polymenorrhea, cervical cancer) [14]. Branca et al. [15] state that the majority of people suffering from anemia are women. Housewives represented 40.5% of cases followed by artisans/workers/farmers 32.5% of cases. This result is similar to that of Doumbia et al. [7] found 45.05% of housewives. El Hioui et al. [8] for their part found that 86% of patients were from disadvantaged socioeconomic groups.

Asthenia, tachycardia, pallor and dizziness in respectively 64.86%, 55.41%, 54.35% and 41.89% of cases were the main clinical signs found in our patients. Balaka et al. [9] found pallor and dyspnea in 74.73% and 32.26% of cases; Faye et al. [10] asthenia in 97% of cases, dyspnea in 91% and pallor of the mucous membranes in 80% of cases and Sangare Drissa et al. [11] conjunctival pallor in 59.9%, dizziness in 56.85%, physical asthenia in 55.33%, dyspnea in 51.26%, headaches in 50.25%.

The anemia was normocytic in 51.4% of cases, microcytic in

43.2% of cases, and macrocytic in 5.4% of cases. Our result is similar to that of Faye et al. who found normocytosis in 59% of cases, microcytosis in 38% of cases and macrocytosis in 3% of cases.

In our series, anemia was severe in 39 patients (52.70% of cases). Balaka et al. [9] reported 48.9% cases of severe anemia. The etiologies were dominated by snakebite envenomations (32.43% of cases) and severe anemic malaria (24.32% of cases). The main etiologies in the study by Faye et al. were infections (21%), solid neoplasias (13%), hematologic malignancies (13%). As for Farhat Bashir et al., the causes of anemia were infections in 27.7% of cases, malaria and gastroenteropathies. in 23.3 and 11.7% respectively.

## Conclusion

Anemia is a real public health problem in developing countries in general and in Togo in particular. It remains a frequent and multidisciplinary pathology. It is common among young female subjects and subjects living in an unfavorable socio-economic context. Microcytic and normocytic anemias were the most common types of anemia in the internal medicine unit of Kara University Hospital. The etiologies are varied and depend on the type of anemia. It is therefore appropriate when faced with anemia to carry out a careful clinical examination and judicious paraclinical examinations in search of the etiology with a view to better management.

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