# CHAPTER 2

# ANEMIA AND TRANSFUSIONS OF BLOOD PRODUCTS

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## Introduction

Anemia is a condition in which the erythrocyte count and hemoglobin level decrease to a level that cannot meet the physiological needs of the person. The World Health Organization (WHO) stated the hemoglobin level as 12 mg/dl for women and 13 mg/dl for men (1). Severe anemia was defined as 8 mg/dl in individuals over 5 years of age and 7 mg/dl in children under 5 years of age (2). Hemoglobin levels vary according to gender, age and race. Hemoglobin is responsible for delivering oxygen to tissues. In patients with anemia, hypoxia develops in the tissues. The heart and brain are the organs most affected by this hypoxia. The severity of symptoms seen in patients with anemia; Comorbidities are related to the rate at which anemia occurs and the loss of blood volume. Shortness of breath, fatigue, and weakness that occur with exertion occur before other symptoms. Pallor may be observed in patients (3,4).

## Morphological Classification of Anemias

According to the morphology of erythrocytes, they are evaluated as macrocytic, normocytic and microcytic. Classification is made according to mean corpuscular volume (MCV) value (5). MCV below 80 fl is called microcytic, over 100 fl is called macrocytic, and between these two values is called normocytic (6). Anemia classification according to erythrocyte morphology is summarized in Table 1.

## Transfusion

The primary objective of blood transfusion, classified as a form of organ transplantation, is to restore the deficient component. Whole blood refers to blood that has not undergone any separation into its constituent components. Blood products are generated using a variety of procedures that are applied to whole

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