

## CHAPTER I

### INTRODUCTION

#### A. Background

Anemia is a widespread health concern globally, affecting about one in four people. The number of people with anemia has been rising, particularly among women, pregnant women, young girls, and children under the age of five. In 2021, approximately 1.92 billion people were affected by anemia, which represents an increase of 420 million people compared to 30 years ago (The Lancet, 2023). According to the World Health Organization (WHO), around 500 million women aged 15–49 and 269 million children aged 6–59 months suffer from anemia worldwide. In 2019, 30% of non-pregnant women (539 million) and 37% of pregnant women (32 million) aged 15–49 were reported to have anemia.

In Indonesia, the prevalence of anemia has also been rising. A survey conducted in 2019 predicted that anemia among the Indonesian population would grow by 0.8%, reaching 31.2%. Globally, anemia rates increased by 0.3% in 2019, reaching 29.9% (Saputra et al., 2023). According to data from the 2018 Riset Kesehatan Dasar (Riskesdas), 26.8% of Indonesian children aged 5-14 had anemia, and the rate was even higher among those aged 15-24, at 32%. (Riskesdas, 2023).

The primary cause of anemia in 2021 was iron deficiency, which accounted for 66.2% of all cases. This shortage affected 825 million women and 444 million men worldwide. Although insufficient iron intake is the



leading cause, other health problems also play a significant role in the development of anemia. (The Lancet, 2023)

Sleep disorders are a variety of conditions that disrupt normal sleep patterns and can lead to daytime sleepiness and other issues (Karna et al., 2023). In children, lack of sleep often shows up as irritability, behavioral issues, difficulties in learning, car accidents among teenagers, and poor performance in school. Insomnia, a common sleep disorder, affects about one-third of the global population at some point in their lives. Around 10% experience severe symptoms that disrupt daily functioning, with women being more affected than men (17.6% compared to 10.1%) (Morin et al., 2020). The specific causes of insomnia is still not well understood (Karna et al., 2023).

In Indonesia, there is limited research on sleep disorders, but some studies have highlighted the prevalence among adolescents. About 38% of urban teens and 37.7% of suburban teens reported having sleep problems (Nuraini et al., 2014). Among these adolescents, 73.9% experienced severe insomnia (Dwiyanti et al., 2023). Sleep needs also change as children grow older; for instance, children aged 5 to 14 typically require 9 to 13 hours of sleep per night. However, cultural and racial differences in sleep habits exist; for example, 5% of white children and 39% of black children still take naps at the age of 8 (Crosby et al., 2010)

Sleep disorders can have various types and causes. One common type, Restless Leg Syndrome (RLS), involves an uncontrollable urge to

move the legs and is associated with discomfort, particularly at night. Recent studies suggest that iron deficiency might be a contributing factor to conditions like RLS. RLS and related disorders are among the most common neurobehavioral and neurological conditions, affecting between 4% and 14% of the population (Hornyak et al., 2004). Research also indicates that children with iron-deficiency anemia (IDA) experience altered sleep patterns, with longer REM (rapid eye movement) sleep episodes in the early part of the night and shorter episodes later, compared to children without IDA (Pierano et al., 2010).

## **B. Research Problem**

1. High rate of anemia among children
2. Exploring the correlation between anemia and sleep disorders
3. The Impact of anemia on sleep quality on children

## **C. Research Question**

Based on the background explained earlier, the author identifies the following key question, Is there a correlation between anemia and sleep disorder in children in Donokerto, Turi, Yogyakarta?

## **D. Objective**

1. General Objective

To find out if there is a relationship between anemia and sleep quality in school-aged children in Donokerto, Yogyakarta.