Chapter 1: Introduction

Anemia or lacking red blood cells is a major worldwide public health problem that disproportionately affects children and pregnant women. From worldwide public health problems, anemia is especially dangerous for children under five and pregnant women. Since the World Health Organization does, screening for anemia infects forty-two percent of preschool children and forty percent of women pregnant on the earth. Children get anemia when their condition of red blood cell count and hemoglobin concentration fall below 110 gram/L. When there are too few or not normal red blood cells or not enough hemoglobin, the blood's ability to give or deliver oxygen to the tissues in the body is diminished; this could be a cause for concern for children, as anemia can inhibit physical and mental growth.

Some parasitic disorders, including malaria and helminth infections, are usually associated with anemia (Osazuwa et al., 2011). In Asia, hookworm infection, schistosomiasis, and trichuriasis are the most common causes of anemia in helminthic patients, especially youngsters. According to the World Health Organization, more than 1,500,000,000 people have been infected with helminthiasis, and 835,000,000 are children.

Regarding prevalence, Indonesia ranked second with 70.6 million instances (Djuardi et al., 2021). According to Hotez and Molyneux 2008, anemia is caused by helminth because helminth can absorb blood which causes blood loss, which leads to iron deficiency. Therefore, a lack of iron prevents the body from producing hemoglobin, which can result in anemia. Children with iron-deficiency anemia may display diminished motor activity, social inattention, and academic performance (Allali et al., 2017). According to a 2011 study by (Osazuwa et al.,2011), sixty-eight of three hundred and sixteen children are infected with helminth infection and anemia. When children are diagnosed with anemia, iron supplements are frequently administered. This may be a short-term remedy, but if helminth infection is the main problem of lack of iron, the parasite infection must be treated to resolve the issue permanently. However, the screening for helminthiasis has not frequently been performed on children with suspected or confirmed anemia.

Suppose the prevalence of helminth infection among anemic children is proven to be high. In that case, this will justify the need for helminth screening among anemic children to receive more appropriate therapy. And if the incidence rate is minimal, the treatment is already effective.

This review aims to investigate the prevalence of helminth infection in children with anemia and the association between anemia and helminthiasis.