Bulletin of High Institute of Public Health
Vol. 30 No. 4[2000]

Prevalence of iron deficiency anemia among preschool children in Alexandria

Essam H. Ghoneim* and Mona Hassan Ahmed†

Abstract: Anemia is defined as a reduction of the red blood cell value or hemoglobin concentration below the range for age, sex and locality. Generally less than 11-gm/ dl at ages 1-4 years is acceptable cut off value for the diagnosis of anemia. A high prevalence of anemia [48.6%] was found among 214 preschool children 2-4 years old, randomly selected from three nurseries representing different socio-economic levels in Alexandria. All children were subjected to anthropometric and laboratory examinations, including blood hemoglobin and lead. Hereditary anemia and chronic infection were excluded. Girls constituted 52.8 % and 47.2 % were boys. Hemoglobin levels ranged from 8.2 to 12.8 g/dl with a mean of 10.93 ± 0.90 g/dl. A significant higher risk of anemia was observed among younger preschoolers [24-<36 months] compared to older preschoolers [36 months and above]. Also significant regional variation in the prevalence of anemia was observed and the risk of anemia increased with increase in blood lead level. These data showed that nutritional anemia constitute a major health problem among preschool children in Alexandria.

INTRODUCTION

Anemia is characterized by an abnormally low number of red blood cells in the circulatory system. It is not a single disease but a condition with much possible causes. In the human body, iron is present in all cells and has several vital functions.[1,2]

Iron deficiency is the most common known form of nutritional deficiency. Its prevalence is highest among children and women of childbearing age.[3]

Anemia in young children is due to multiple factors, including early introduction of cow's milk, the use of formula that is not iron-fortified and consumption of iron-poor food. Low consumption of foods that enhance iron absorption such as citrus fruits, are also responsible for anemia in children. [1]

Iron deficiency anemia also contributes to lead poisoning in children by increasing the gastrointestinal tract's ability to absorb heavy

* Central Lab for Food and Feed, Agric. Res. Center
† Department of Biostatistics, High Institute of Public Health, Alexandria University