

Original Article

## Prevalence Of Anemia In Afridi Children Of Khyber Agency

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### ABSTRACT

**Objective:** To improve children's nutritional health and the frequency of anaemia based on haemoglobin levels in the tribal territory under federal administration, the Khyber agency

**Materials & Methods:** This research examined the prevalence of anaemia in children between 6 and 60 months. One hundred nine boys and 68 girls were enrolled in the research, conducted after four villages in the Khyber Agency were randomly chosen for the survey. To estimate Hb, 3 cc of venous blood was drawn and placed in EDTA tubes.

**Results:** Children with anaemia had a frequency of 21.5% overall, with 0% severe anaemia. Of these, 22% of male children and 20.6% of female children had anaemia. The boys' mean haemoglobin levels were 12.13 g/dL, and the girls' mean haemoglobin levels were 11.9 g/dL, with corresponding SDs of 1.23 and 1.24, respectively.

**Conclusion:** The prevalence of anaemia in Afridi children of FATA is lower in girls as compared to boys.

**Key Words:** anaemia, haemoglobin, the prevalence..

### INTRODUCTION

Anaemia is among the most common nutritional problems, especially in developing countries. In Southeast Asia, the overall prevalence of anaemia is one of the highest in the world, with 700 million people at risk<sup>2</sup>. Anaemia is when the haemoglobin level in the blood is lower than normal due to a deficiency of one or more essential nutrients<sup>3</sup>. Anaemia compromises mental capability, cognitive development, performance in school, physical growth, and immunity in children. Less than Optimal behaviour in children and infants is also associated with Anemia<sup>5</sup>. Anaemia is a known nutritional problem worldwide with a higher prevalence in developing countries than developed countries<sup>6</sup>. In developing countries, the prevalence of anaemia is three to four

times higher than in developed countries<sup>7,8</sup>. With an estimated 43% global incidence, infants and young children are disproportionately impacted. Anaemia primarily affects mental and physical growth, which lowers working ability and negatively affects national development<sup>9</sup>. A significant correlation has been shown between the occurrence of anaemia in children and the mothers' haemoglobin levels<sup>10</sup>. This study's primary goal was to evaluate and ascertain, using haemoglobin levels, the nutritional status and prevalence of anaemia among children (ages 6 to 60 months) in the federally governed tribal territory, Khyber Agency.

### MATERIAL AND METHODS

From March to July 2017, a cross-sectional survey was carried out in the Khyber Agency's federally administered tribal area (FATA). Four villages inside the agency—Nala, Kohi, Chargai dagarai, and Chora—were randomly chosen for the study. The first home close to the mosque was chosen for each cluster using cluster sampling. Forty-four male and female children between the ages of 6 and 60 months were then chosen from each cluster using a formula (total number of households divided by 44 = number for next household selection).

The two staff nurses and the two medical technologists conducted the fieldwork, which included collecting blood samples, doing physical

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exams, and conducting interviews. Before data collection, all participant guardians provided written permission. Before gathering data, medical staff members received training. Working arrangements, an initial site survey, and preliminary questionnaire testing were completed during the first site visit.

Each child’s cubital vein yielded a sample of three centilitres of blood, which was then collected in EDTA tubes. The Mindray BC-30s haematology analyzer was used to determine the haemoglobin (Hb) levels. The World Health Organization’s (WHO) Hb guidelines classify mild anaemia as Hb 10–10.9 g/dL, moderate anaemia as Hb 7-9.9 g/dL, and severe anaemia as Hb < 7.0 g/dL for children aged 6–60 months, were used to identify the existence and severity of anaemia.

**RESULTS**

According to the research, the prevalence of anaemia in children aged between six months and sixty months was 21.5% (38/177). Table 1 Males had a greater incidence of anaemia (22%; 24/109), but females had a lower prevalence (20.6%; 14/68). Table 1

Boys had a mean haemoglobin level of 12.13 g/ dL, and girls had a mean of 11.9 g/dL, with standard deviations of 1.53 and 1.24, respectively. The study’s participant children did not exhibit any signs of lightheadedness or easy weariness.

**Table 1: Prevalence of Anemia in Afridi Children of Khyber Agency, FATA, Pakistan**

Gender	Number	Normal		Anemia	
		No	%	No	%
Male	109	85	78	24	22
Female	68	54	79.4	14	20.6
Overall	177	139	78.5	38	21.5

**Table 2: Prevalence of different grades of anemia in Afridi children using the WHO classification**

Gender	Total cases	Mild Anemia		Moderate Anemia		Severe Anemia	
		No	%	No	%	No	%
Male	24	12	50	12	50	0	0
Female	14	8	57	6	43	0	0
Overall	38	20	52.6	18	47.4	0	0

Table 2 demonstrates the frequency of various anaemia classes among Afridi youngsters living in the Khyber Agency’s federally administered tribal territory (FATA). The WHO’s classification system was used to grade the anaemia. It was shown that none of the boys had severe anaemia; however, 50% (12/24) had mild anaemia, and 50% (12/24) had moderate anaemia. Of all the females, 57% (8/14) had mild anaemia, 43% (6/14) had moderate anaemia, and none had severe anaemia.

**DISCUSSION**

The results of the study indicated that the overall prevalence of anaemia was 21.5% in Afridi children of the federally administered tribal area (FATA), Khyber agency. The prevalence of anaemia in girls (20.6%) was lower than in boys (22%). The result of this study shows that the prevalence of anaemia in Afridi children of the federally administered tribal area (FATA), Khyber agency is lower than studies done in other regions of southeast Asia and Africa, Sudhagandhi B et al. stated the prevalence of anaemia 52.88% <sup>11</sup>. According to Mohamed Ag Ayoya et al., 38.8% of children suffer from anemia <sup>12</sup>. Our findings suggest that many youngsters who seem healthy are anaemic.

This might result from healthy youngsters consuming more snacks and junk food, which has low-calorie content and causes anaemia.

The main underlying causes of childhood anaemia in underdeveloped nations include malnutrition, certain illnesses, limited access to healthcare services, and poverty. These factors eventually result in a high incidence of anaemia in children.

Long-term anaemia, regardless of source, lowers a person’s BMI and causes growth retardation, especially in teenage females.

If anaemia is more than 40% in a community, the World Health Organisation considers it a serious issue.

**CONCLUSION**

The main factors contributing to children’s anaemia development include low heme iron consumption from animal sources and poor dietary iron absorption. The current research aims to identify the prevalence of various anaemia grades and implement strategies to

lower them. For this reason, governmental initiatives to increase dietary iron consumption should be implemented, as well as routine population screenings.

Even though the current research was not intended to examine every risk factor for anaemia in this community, we do state that worm infestation and inadequate diets with low bioavailable iron may cause the prevalence as it is. Governments and humanitarian organizations should start extensive measures to combat anaemia.

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**Authors Contribution**

**Concept & Design of Study:** Mohammad Amjid

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