



**Anaemia Prevention and Control Programme
Impact Evaluation in Uzbekistan, 2005**

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Abstract

1. A regional level survey for the Anaemia Prevention and Control Program Evaluation (APCPE) in Autonomous Republic Karakalpakstan (ARK), Khorezm and Fergana oblasts of Uzbekistan was carried out by the Institute of Haematology and Blood Transfusion of Ministry of Health Uzbekistan with the technical assistance of the Kazakh Academy of Nutrition in September and October 2005. The survey was promoted and supported by the UNICEF Uzbekistan.

2. The Anaemia Prevention and Control (APC) activities on iron-folate supplementation and dietary diversification with financial and technical support of UNICEF and JICA was started in Uzbekistan in 1999-2006, by different regions. According to questionnaire based interview of women, on average 88.4% of observed women and 74.7% of children took iron-folate supplements.

3. The overall prevalence of anaemia among non-pregnant women of 15-49 years of age was 37.6%, with some differences by place of residence, and age. The following prevalence of anaemia was revealed among non-pregnant women, who:

Took iron-folate tablets	35.8%	Did not take iron-folate tablets	53.1%
Took iron-folate tablets >12 months	32.6%	Took iron-folate tablets ≤12 months	44.7%
Changed dietary intake and food preferences, and did not take tablets	40.8%	Did not change dietary intake and food preferences, and did not take tablets	70.3%
Changed dietary intake and food preferences, and took tablets	23.9%	Did not change dietary intake and food preferences, and took tablets	48.2%

4. The prevalence of anaemia among children 6 to 59 months old was 32.9% with some differences by place of residence, and age. The following prevalence of anaemia was revealed among children, who:

Took iron-folate supplements	30.0%	Did not take iron-folate supplements	41.4%
Took iron-folate supplements >12 months	21.0%	Took iron-folate supplements ≤12 months	36.1%
Changed dietary intake and food preferences, and did not take supplements	38.0%	Did not change dietary intake and food preferences, and did not take supplements	48.0%
Changed dietary intake and food preferences, and took supplements	23.0%	Did not change dietary intake and food preferences, and took supplements	40.0%

5. Women (79.0%) and children (81.2%) consumed iron-folate supplements mostly once per week with the average duration of intake 21.8 months for women and 12.2 months for children.

6. 37.3% of women and 19.6% of children had side effects of using iron-folate supplements mainly in the forms of dyspepsia (nausea, vomiting, diarrhoea, iron smack etc). Most of these women (47.3%) and children (63.0%) stopped temporarily and then continued to take supplements; 25.7% of women and 12.5% of children did not stop to take them.

7. Absolute majority of 1500 interviewed women are informed on anaemia: 98% - heard on anaemia, and 97% - know the disadvantages of anaemia; 76% - had anaemia some time and in 95% of these cases medical personnel diagnosed their anaemia; 97% - declared that medical personnel informed them how to prevent anaemia; 98,5% among these women know how to prevent anaemia; 94% - know how it needs to eat for prevention of anaemia.

Introduction

Iron deficiency anaemia is one of the most alarming issues of Uzbekistan's healthcare. The prevalence of anaemia among children 1-3 years old was 80% in Muynak district of the Autonomous Republic Karakalpakstan in 1994. In Uzbekistan 60.4% of reproductive age women (aged 15-49) and 60.8% of 6-59 months aged children were anaemic according to DHS-1996 data. According to DHS-2002 results, the prevalence of anaemia among 6-59 months aged children was decreased to 49.2%, which exceeded the 40 per cent cut-off suggested by the World Health Organization, UNICEF and United Nations University, thus indicating that anaemia was still indeed a public health priority for the country.

In 1996-1997, UNICEF CARK in collaboration with WHO and UN University designed Anaemia Prevention and Control Program for CARK Countries. APC Program included supplementation, fortification and dietary diversification components, which are being implemented now in Uzbekistan. Iron-folate supplementation component was started in 1999-2006, by regions; wheat flour fortification by iron and other micronutrients (zinc, thiamine, riboflavin, folic acid and niacin) was started in 2004, and after one year break is being implemented again since the end of 2005; both of supplementation and fortification components include information, education and communication activities including those on dietary diversification.

Objectives

The main objective of the survey was to ascertain the status of the efforts being made for the reduction of prevalence of anaemia in Uzbekistan by one third by 2010. The specific objectives of the evaluation are to:

- 1) assess the health facilities/institutions that are currently involved in iron/folate supplementation;
- 2) assess the efficiency and capacity of these facilities/laboratories in terms of equipment to support the prevention and control of anaemia;
- 3) assess the target population directly benefiting from the APC program and classify them into children under 5 years and women of 15-49 years old;
- 4) establish the role of communication and assess the impact of Information, Education and Communication (IEC) on Iron Deficiency Anaemia (IDA) prevention on the target population;
- 5) determine the role of key agencies, ministries, and regulatory bodies (SES and Standards bureau) in the APC program;
- 6) suggest a sustainable system of monitoring and evaluation of iron supplements and wheat flour fortification in Uzbekistan; and
- 7) on the basis of the findings in 1 to 9, identify the key issues that would be needed to improve the anaemia prevention and control programme in Uzbekistan.

Methods

The sample was designed to give estimates of the prevalence of anaemia among children and women within a 6.5 per cent margin of error at the 95 per cent confidence level in oblast. A total of 3000 subjects (500 children 6 to 59 months of age and 500 women of childbearing age in each of three oblasts) were targeted. Among all children and all women capillary blood haemoglobin was measured by Hemocue spectrometer.

A questionnaire was designed so as to provide relevant indicators of the health and nutrition status of the children under and women as outlined in the survey objectives. All observed women were interviewed by using a questionnaire. A short questionnaire for interviewing of health personnel, and a guide for conducting of focus group discussions with women were used as well.

Results

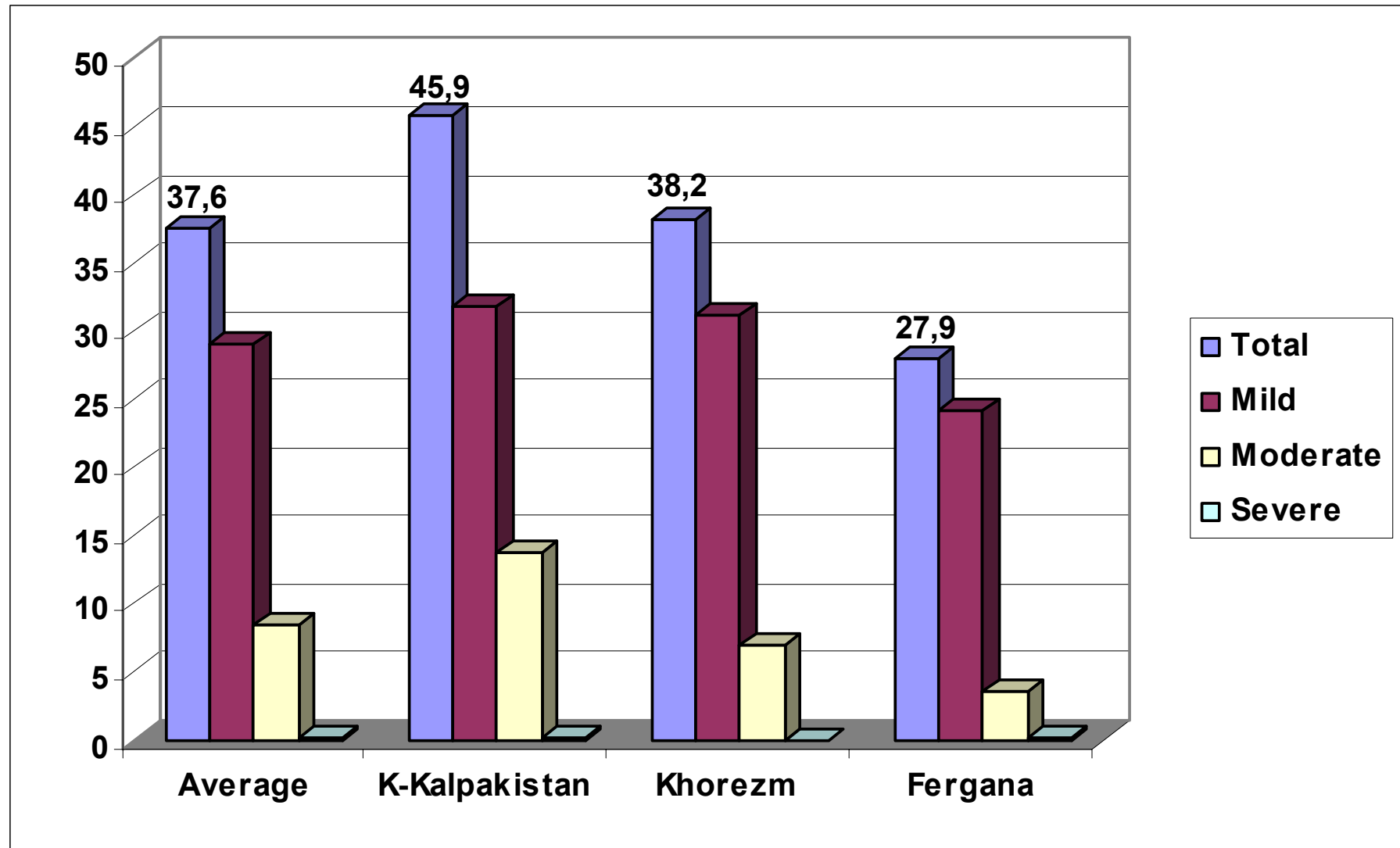


Figure 1 - Prevalence of anaemia (%) in women, by severity and regions

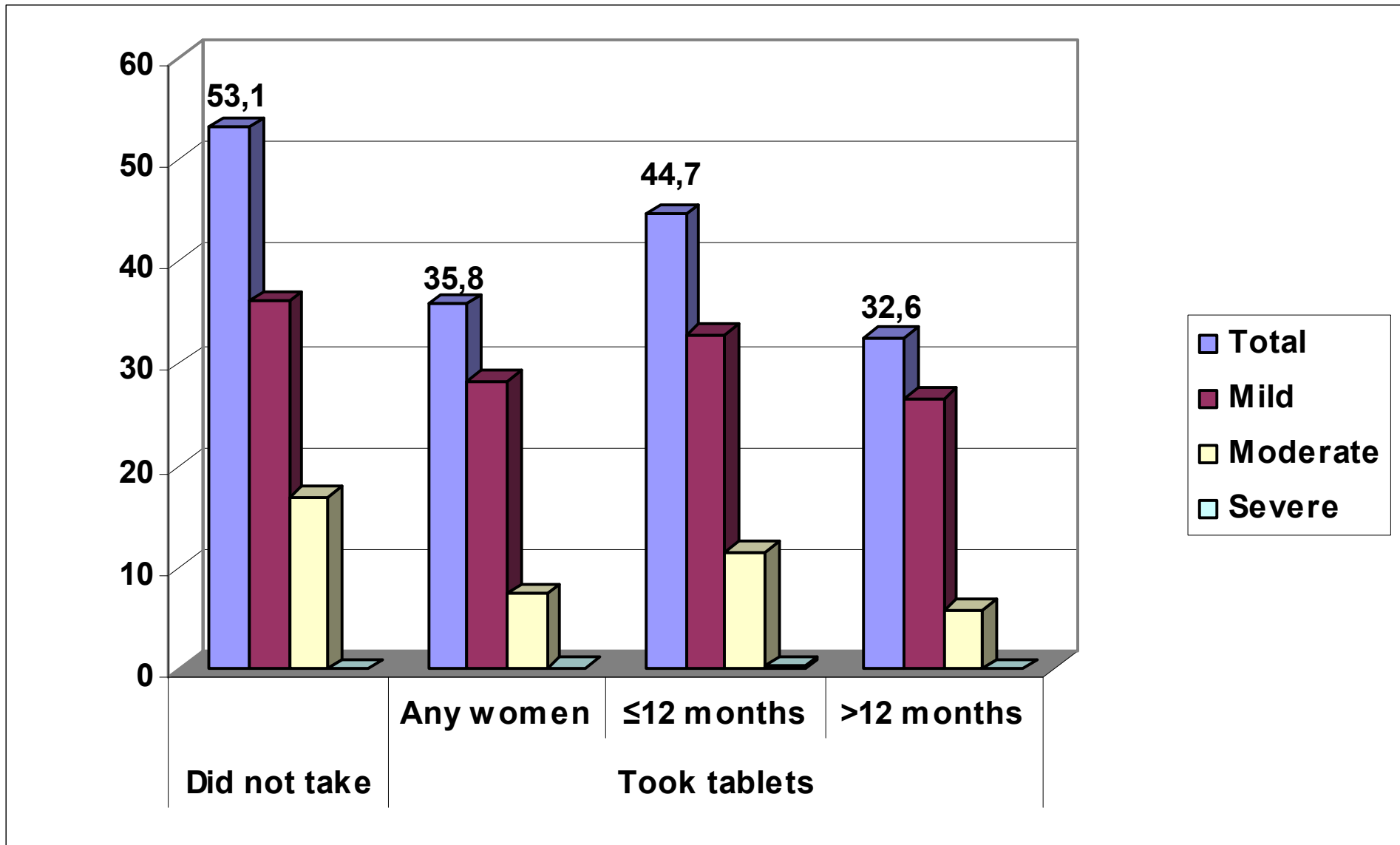


Figure 2 - Prevalence of anaemia in women (%), by not taking, taking and duration of taking iron-folate tablets

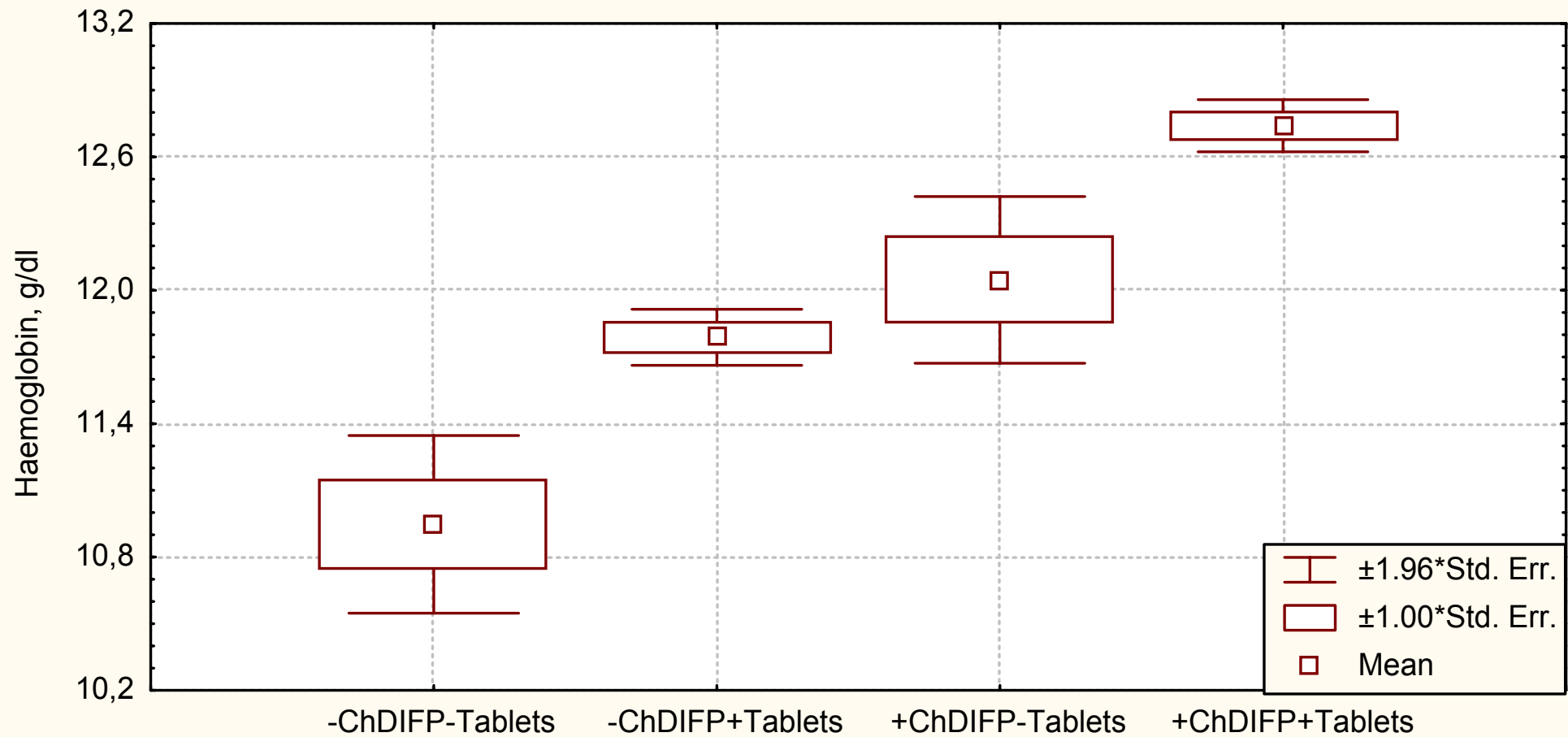


Figure 3 - The levels of blood haemoglobin in women, by not changing (-ChDIFP) or changing (+ChDIFP) dietary intake and food preferences, and not taking (-Tablets) or taking (+Tablets) iron-folate supplements

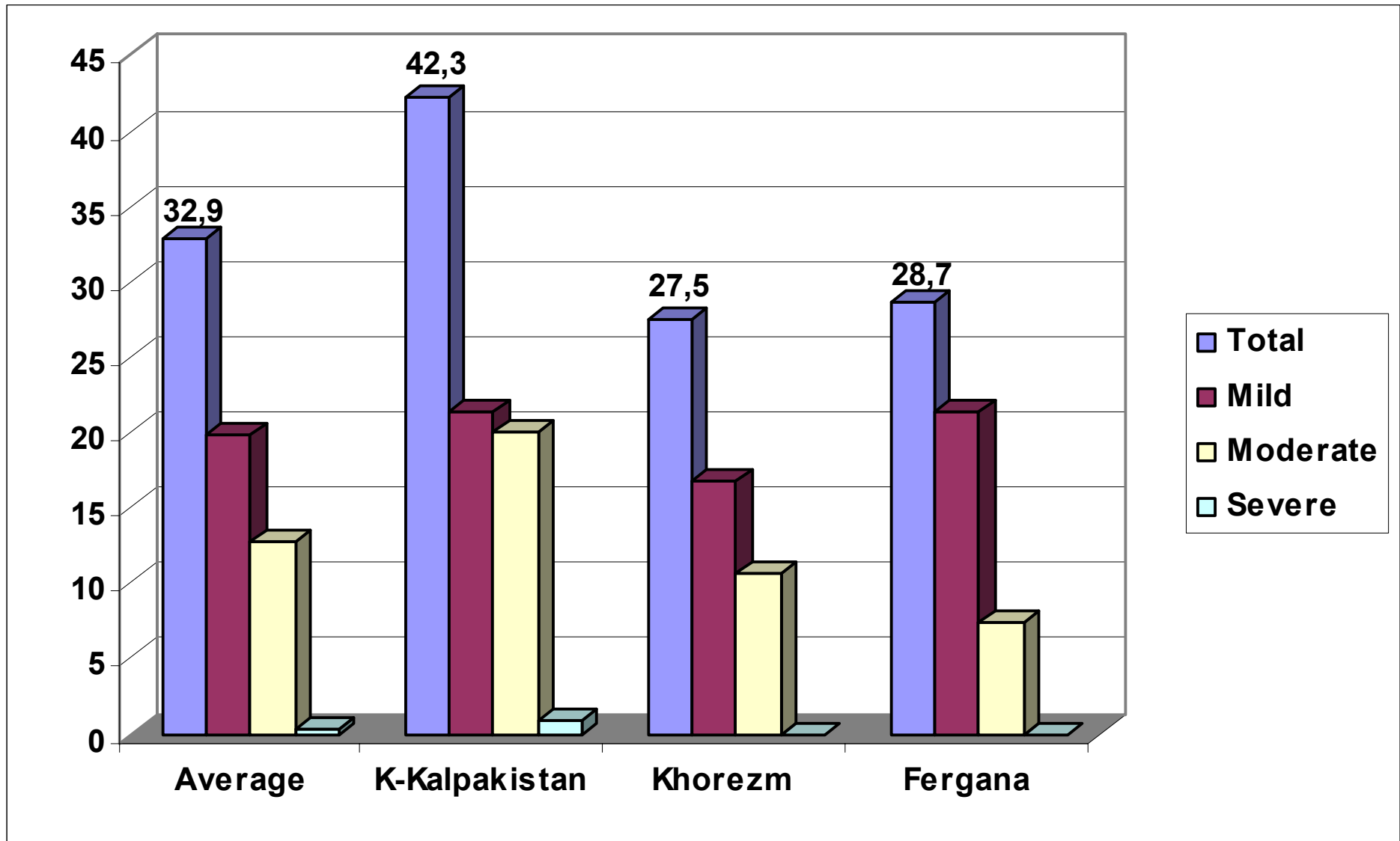


Figure 4 - Prevalence of anaemia (%) in children, by severity and regions

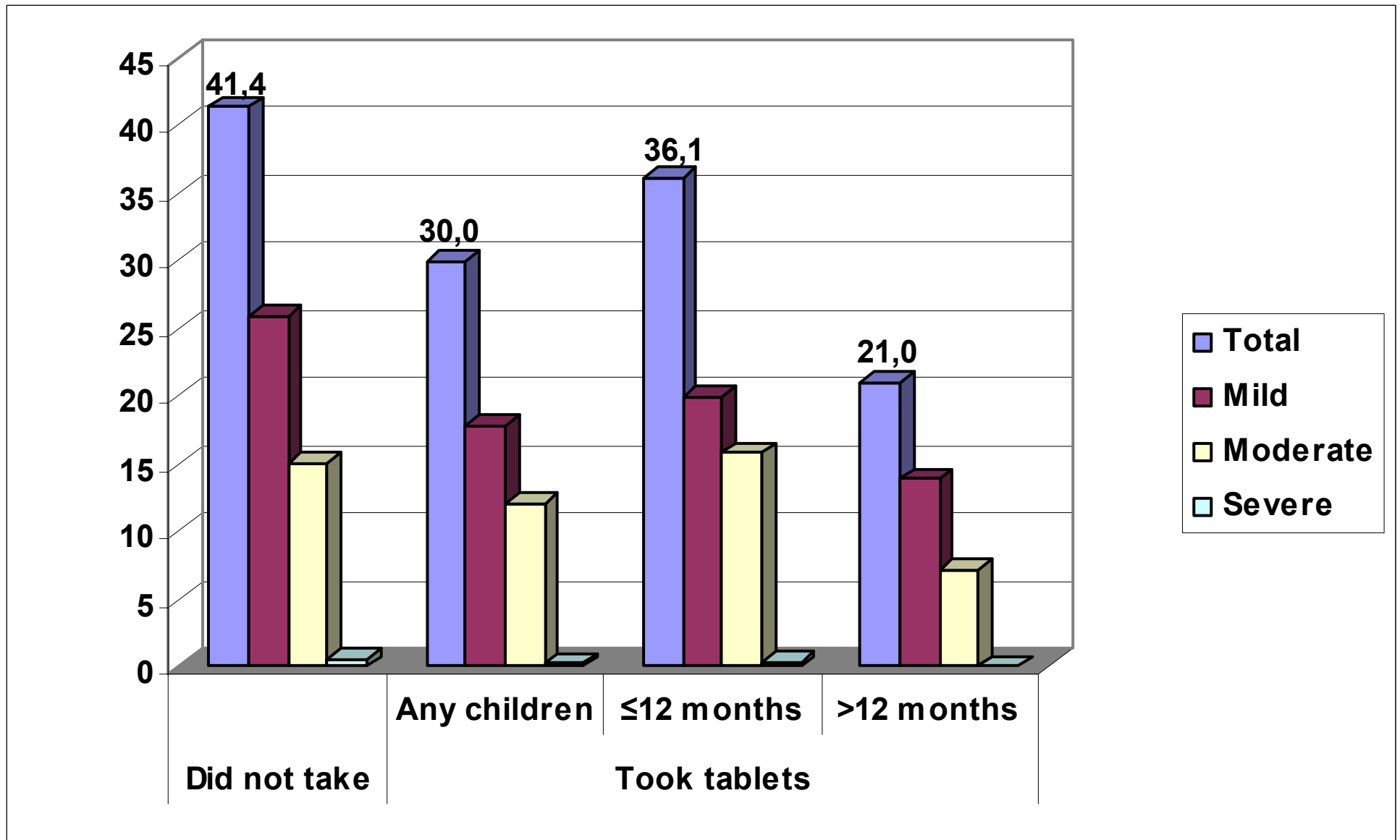


Figure 5 - Prevalence of anaemia in children (%), by not taking, taking and duration of taking iron-folate tablets

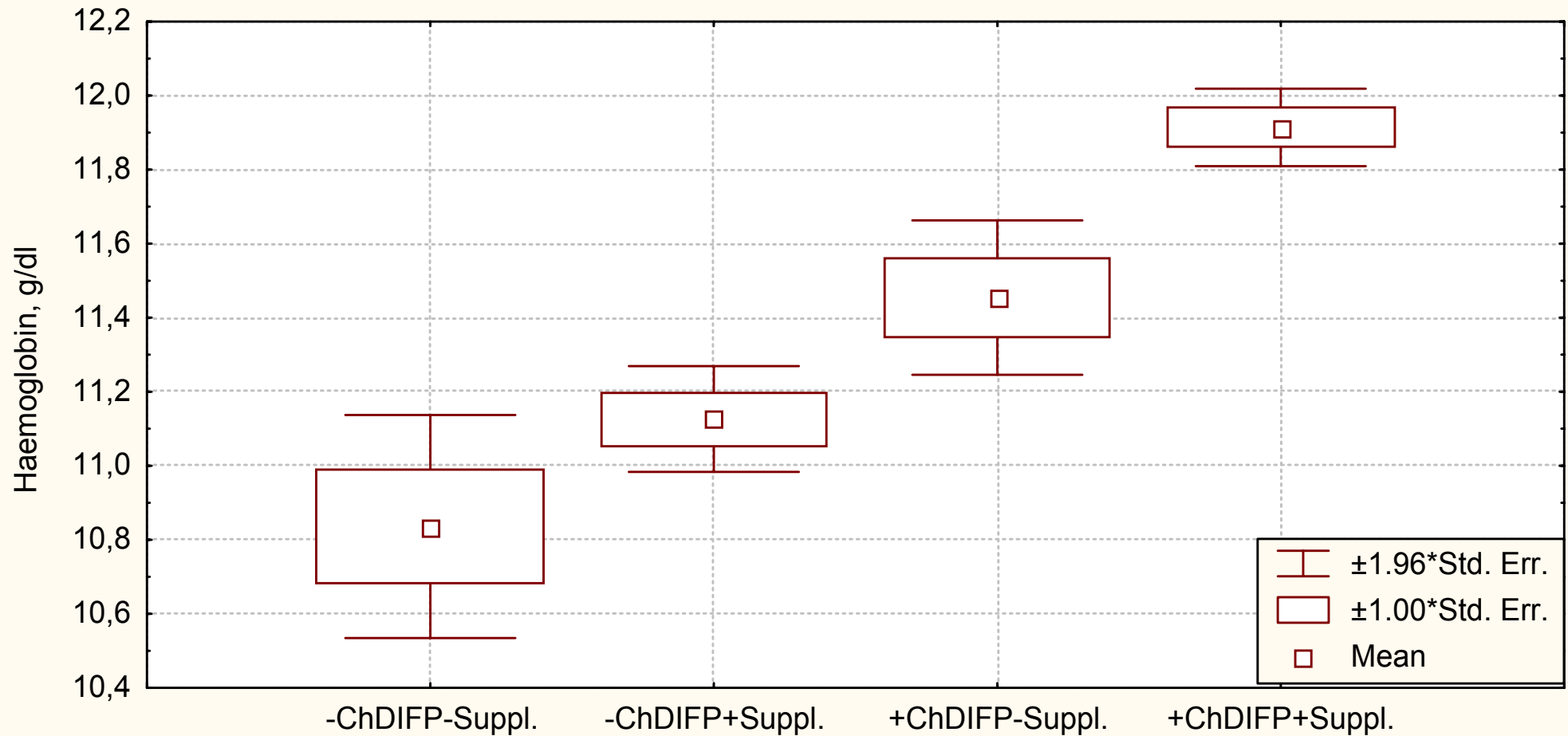


Figure 6 - The levels of blood haemoglobin in children, by not changing (-ChDIFP) or changing (+ChDIFP) dietary intake and food preferences, and not taking (-Suppl.) or taking (+Suppl.) iron-folate supplements

Conclusions

1. On average 88.4% of observed women and 74.7% of children took iron-folate supplements, which were distributed free.
2. 37.3% of women and 19.6% of children had side effects of using iron-folate supplements. Most of these women (47.3%) and children (63.0%) stopped temporarily and then continued to take supplements; 25.7% of women and 12.5% of children did not stop to take them.
3. Weekly iron-folate supplementation of women and children in non-controlled conditions is effective if it is implemented >12 months. In this case the prevalence of anaemia is significantly reduced and the levels of blood haemoglobin are enhanced both in women and children.
4. Information, education and communication activities are important for achieving a success of APC Program implementation. The majority of interviewed women are informed on anaemia: 98% - heard on anaemia, 97% - declared that medical personnel informed them how to prevent anaemia, and 98,5% among these women know how to prevent anaemia; 94% - know how it needs to eat for prevention of anaemia; and 97% - know the disadvantages of anaemia
5. Changes of dietary intake and food preferences (increased intake of meat, vegetables and fruits, and not drinking tea during eating etc.) significantly reduce the prevalence of anaemia, enhance the levels of blood haemoglobin, and increase the efficiency of iron supplementation.
6. The Recommendations on the improvement of the status of the nutrition of mothers and children based on the results of the Anaemia Prevention and Control Program Evaluation in Uzbekistan are elaborated.