# To Study the Effectiveness of "Maysara" Wheat Sprouts Powder in the Treatment of Iron Deficiency Anemia Tashkent Medical Academy

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**Abstract:** The basis of pathogenetic therapy of iron deficiency anemia (WAIT) and anemia of mixed genesis is the elimination of iron and vitamin B12 deficiency, the restoration of their reserves in the body. (1,). Various preparations of iron and vitamin B12 are used for this purpose. The treatment regimen should include antioxidants, membrane stabilizers, cytoprotectors, antihypoxants (such as alpha-tocopherol up to 100-150 mg per day or ascorutin, vitamin A, vitamin C, lipostabil, methionine, etc.) combined with vitamins of group B. In this regard, the appointment of wheat shoots "MAYSARA" in the treatment of IDA in addition to standard therapy is advisable. Materials and methods. Clinical trials were conducted using an open method in the hematology department of the 1st clinic of the Tashkent Medical Academy. The examination included 30 patients with anemia of iron deficiency and mixed character of moderate and severe degree. The studied individuals were conditionally divided into two groups. The first group (control) included 15 patients with anemia who received standard therapy, and the drug for intravenous administration ferrofer was used as a ferropreparation. The second group (the main one) included patients taking standard therapy and MAYSARA wheat shoots

Keywords: iron deficiency anemia (IDA), 30 patients with IDA, wheat shoots "MAYSARA".

#### 1. Introduction

**The urgency of the problem.** It is known that the basis of pathogenetic therapy of iron deficiency anemia (WAIT) and anemia of mixed genesis is the elimination of iron and vitamin B12 deficiency, the restoration of their reserves in the body. (1, 11, 12, 13, 14). Various preparations of iron and vitamin B12 are used for this purpose. It should be noted that in anemia, in addition to erythropoiesis disorders, significant changes in the functional state of the erythrocyte membrane, activation of lipid peroxidation and a decrease in the antioxidant protection of erythrocytes can occur, therefore, antioxidants, membrane stabilizers, cytoprotectors, antihypoxants (such as alpha-tocopherol up to 100-150 mg per day or ascorutin, vitamin) must be introduced into the treatment regimen A, vitamin C, lipostabil, methionine, etc.) Combine with vitamins of group B. (2, 3, and 4). In this regard, the appointment of wheat shoots "MAYSARA" in the treatment of anemia in addition to standard therapy is advisable.(4).

Young wheat grass is one of the most valuable types of greenery, well-known and useful, due to its particularly high chlorophyll content. The importance of the latter is especially emphasized in medical research in recent years. Due to its chemical structure, the chlorophyll molecule is almost identical to the hemoglobin molecule. The main difference is that the hemoglobin molecule is based on iron, while chlorophyll is based on magnesium. Thanks to this similarity, living chlorophyll molecules are actively involved in the vital processes of the body and stimulate them. Chlorophyll cleanses the body, stimulates the production of hemoglobin and red blood cells,

cleanses the intestines and regulates digestion, acts anti-carcinogenically, helps in reducing internal inflammation and infections, promotes wound healing, eliminates bad breath, cleanses the respiratory tract, stimulates milk production in nursing women, stimulates blood circulation and much more.

Wheat germ powder has an almost equal effect. If young wheat sprouts (about 14 days old) carefully harvested and dried at low temperatures, most of the chlorophyll and other nutrients from fresh grass retain their nutritional value and biological activity. It is important that the correct temperature regime (up to 45C) is maintained at any stage of the production of wheat germ powder. Thus, the powder turns out to be a highly concentrated source of nutrients, vitamins, minerals and antioxidants. (7).

The purpose of this chapter is the medical and biological justification of the "MAYSARA" wheat sprouts powder in the treatment of patients with iron deficiency anemia.

#### 2. Materials and methods of research.

Clinical trials were conducted using an open method in the hematology department of the 1st clinic of the Tashkent Medical Academy. The examination included 30 patients with anemia of iron deficiency and mixed character of moderate and severe degree. The studied individuals were conditionally divided into two groups.

The first group (control) included 15 patients with anemia who received standard therapy, and the drug for intravenous administration ferrofer was used as a ferropreparation. Patients with anemia of mixed origin, in addition to the iron preparation, received vitamin B12 for 10 days. The second group (the main one) included patients who took standard therapy and "MAYSARA" Wheat shoots for 30 days. Patients of both groups were of comparable age and had a similar clinical picture of the course of the disease. Patients with iron deficiency anemia and anemia of mixed etiology (vitamin B<sub>12</sub> and iron deficiency) were included in clinical trials.

The first group consisted of 15 patients with anemia aged 28 to 75 years, the average age was  $51.5 \pm 1.4$  years, of which 3 were men and 12 were women.

The second group consisted of 15 patients with anemia aged 18-63 years, the average age was  $40.4 \pm 1.3$  years, of which 4 were men, and 11 were women. Wheat shoots "MAYSARA" were prescribed to patients with their informed consent. Wheat shoots "MAYSARA" were prescribed according to the following scheme: with anemia of moderate and severe degree, patients took powder diluted in a glass of water 1 teaspoon 1 time a day in the morning on an empty stomach.

The data obtained during the study were subjected to statistical processing on a Pentium – IV personal computer using the Microsoft Office Excel – 2003 software package, including the use of built-in statistical processing functions. The level of confidence P<0.05 was taken as statistically significant changes (Mamatkulov B.M. 2005, Mamatkulov B.2011) (5, 6).

#### **3.** The results of the research

It is known that the basis of pathogenetic therapy of iron deficiency anemia (IDA) and anemia of mixed genesis is the elimination of iron and vitamin B12 deficiency, the restoration of their reserves in the body. For this purpose, various preparations of iron and vitamin B12 are used. It should be noted that in anemia, in addition to erythropoiesis disorders, significant changes in the functional state of the erythrocyte membrane, activation of lipid peroxidation and a decrease in the antioxidant protection of erythrocytes can occur, therefore, antioxidants, membrane stabilizers, cytoprotectors, antihypoxants (such as alpha-tocopherol up to 100-150 mg per day or ascorutin, vitamin) must be introduced into the treatment regimen A, vitamin C, lipostabil, methionine, etc.) Combined with vitamins of group B. In this regard, the appointment of wheat shoots "MAYSARA" in the treatment of anemia in addition to standard therapy is advisable.

Clinical efficacy was assessed according to objective and subjective criteria. In accordance with the protocol of the clinical trial, peripheral blood parameters were selected as objective criteria for the effectiveness of "MAYSARA" Wheat shoots.

Our comparative analysis of the results of treatment of patients with standard therapy and the inclusion of wheat shoots "MAYSARA" in the treatment showed that an improvement in hematological parameters was noted in both groups (Table. 1 and 2).

Table 1.Peripheral blood parameters of patients with anemia of varying severity in the treatment of wheat shoots "MAYSARA"

| Indicators                    | Before treatment | By the end of treatment |  |  |
|-------------------------------|------------------|-------------------------|--|--|
| General indicators $(n = 30)$ |                  |                         |  |  |
| Hemoglobin, g/l               | $68,5 \pm 5,1$   | $87,6 \pm 4,9$          |  |  |

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| Red blood cells, x 1012/l | $2,4 \pm 0,5$   | $3,05 \pm 0,3$ |  |  |
|---------------------------|-----------------|----------------|--|--|
| Color indicator           | $0,8\pm0,02$    | $0,9\pm0,07$   |  |  |
| With moderate anemia      |                 |                |  |  |
| Hemoglobin, g/l           | $84,4 \pm 4,5$  | $102,7\pm5,5$  |  |  |
| Red blood cells, x 1012/l | $2,83 \pm 0,3$  | $3,3 \pm 0,15$ |  |  |
| Color indicator           | $0,81 \pm 0,03$ | $0,9 \pm 0,04$ |  |  |
| In severe cases, WAIT     |                 |                |  |  |
| Hemoglobin, g/l           | $52,7 \pm 4,8$  | $72,5 \pm 5,1$ |  |  |
| Red blood cells, x 1012/l | $2,0 \pm 0,33$  | $2,8 \pm 0,45$ |  |  |
| Color indicator           | $0.8 \pm 0.06$  | $0,9 \pm 0,05$ |  |  |

Table 2.Peripheral blood parameters of patients with anemia of varying severity during standard therapy.

| Indicators                        | Before treatment    | By the end of treatment |  |  |
|-----------------------------------|---------------------|-------------------------|--|--|
| General indicators $(n = 15)$     |                     |                         |  |  |
| Hemoglobin, g/l                   | $69,65 \pm 7,87$    | $79,9\pm8,9$            |  |  |
| Red blood cells, x 1012/l         | $2,\!45 \pm 0,\!34$ | $2,75 \pm 0,31$         |  |  |
| Color indicator                   | $0,76\pm0,06$       | $0,\!88\pm0,\!04$       |  |  |
| With an average degree of WAITING |                     |                         |  |  |
| Hemoglobin, g/l                   | $82,7 \pm 4,4$      | $88,5 \pm 4,4$          |  |  |
| Red blood cells, x 1012/l         | $2,8 \pm 0,1$       | $3,0 \pm 0,18$          |  |  |
| Color indicator                   | $0,8 \pm 0,06$      | 0,96 ±0,03              |  |  |
| In severe cases, WAIT             |                     |                         |  |  |
| Hemoglobin, g/l                   | $56,6 \pm 1,09$     | $71,3 \pm 4,92$         |  |  |
| Red blood cells, x 1012/l         | $2,1 \pm 0,13$      | $2,5 \pm 0,2$           |  |  |
| Color indicator                   | $0,73 \pm 0,05$     | $0,8\pm0,05$            |  |  |

The study of peripheral blood parameters showed that the increase in hemoglobin levels in the group of patients with anemia who took MAYSARA wheat shoots and standard therapy was higher than in the group of patients who received only standard treatment and amounted to 18 g/l, whereas in the control group it was 7 g/l. Also, the increase in the number of red blood cells in the main group after treatment was slightly higher than in the control group, and amounted to 0.41 and 0.25 x 1012/l, respectively.

The observed more pronounced improvement in peripheral blood parameters in the group of patients treated is a consequence of an effective increase in the average daily hemoglobin and erythrocyte count, which occurs under the influence of basic therapy and wheat shoots. This, in turn, indicates that MAYSARA wheat shoots contribute to a more intensive saturation of the body with iron and vitamin B12 by improving its absorption and stimulates the processes of its effective incorporation into hemoglobin and activate bone marrow functions.

A clinical examination of patients in the main group showed that all patients complained of general weakness, fatigue, headaches, dizziness, tinnitus, flashing flies in front of their eyes, palpitations, shortness of breath, drowsiness, poor appetite, numbness of the extremities. When examining patients, pallor of the skin and mucous membranes, dry skin, brittle and hair loss, curved nails, signs of angular stomatitis were observed. The severity of these complaints and clinical symptoms of the disease depended on the severity of anemia and the duration of the disease.

The conducted studies showed that in the group of patients taking antianemic drugs and wheat shoots "MAYSARA" there was a more significant decrease in the severity of clinical symptoms of anemia than in the control group. In patients with moderate anemia, there was an improvement in appetite, mood, and patients became physically more active. In patients with severe anemia, there was also an improvement in well-being, which was manifested by a decrease in dizziness, flashing flies in front of the eyes, drowsiness and pallor of the skin in half of the examined patients. Complaints such as tinnitus, palpitations, and headaches disappeared in 25% of patients.

There were no complaints from patients during the use of "MAYSARA" wheat shoots. During the testing of "MAYSARA" wheat shoots, no side effects were found.

A clinical trial of "MAYSARA" wheat shoots showed that the drug has the property of enhancing the antianemic effect of basic therapy for all degrees of severity of IDA, as well as anemia of mixed genesis. This, in turn, is a consequence of improved absorption of iron and vitamin B12 from the composition of medicines, but also the stimulating effect of wheat shoots "MAYSARA" on the processes of hemoglobin synthesis, as well as the involvement of tissue iron in the processes of hematopoiesis and stimulation of bone marrow functions.

Thus, the results obtained give grounds to conclude that it is advisable to use "MAYSARA" wheat shoots in a wide range of hematology practice as a remedy with a certain therapeutic effect for IDA and anemia of mixed genesis of varying severity. The drug may also be recommended as a preventive measure to prevent the occurrence of anemia.

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