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Formulation and Evaluation of Polyherbal Syrup for Anemia

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ABSTRACT

Polyherbal formulation (PHF) is the use of more than one herb in a herbal medicine preparation. The concept is found in Ayurvedic and other traditional medicinal systems where multiple herbs in a particular ratio may be used in the treatment of illness.

Keywords: Anemia, iron deficiency, health survey, child health, maternal health.

INTRODUCTION

Anemia is a common blood disorder that affects people of all ages, although those at greater risk are the elderly, young women of child-bearing age, and infants. Medically, anemia stands for a lowered hemoglobin level (normal for males: 13.5 - 17.0 gms% & forfemales:12.0-15.5 gms%), either with normal or lowered red blood cells, depending on age and sex.Hemoglobin is a basic requirement of the body necessary for transporting oxygen throughout the body. Hemoglobin functions as the moving power station in the body. So, lowered hemoglobin may cause fatigability, unusual tiredness, and energy shutdown in all parts of thebody. There are over 400 types of anemia, many of which are rare, but in all cases, there is a lower than normal number of circulating red blood cells .Presently, more than half of the world's population experiences some form ofanemia in their lifetime. Anemia usually presents a wide range of symptoms. Each patient may suffer from different symptoms according to their disease and intensity. The common symptoms are lack of concentration, getting irritated for trivial issues , feeling exhausted withprofound weakness, giddiness/ fainting / blackouts / headaches, short shallow breath with a requirement of deep breath often , weak rapid pulse and low blood pressure , palpitations andbreathing difficulty on exertion or climbing stairs , chest pain / vague discomfort in the chest on exertion , pallor of the skin / nails / mucous membranes of the skin / nails / mucous membranes of mouth , smooth glossy tongue with cracks or sores, cracks or sores in the angle of the mouth , tinnitus, loss of appetite , spoon-shaped nails/brittle nails, spleen enlargement , ankle oedema, poor growth, etc. Dietary changes and iron supplementation are commonly preferred for themanagement of anemia. Oral iron therapy has many disadvantages such as insufficient absorption and lack of compliance. Furthermore, consuming high quantities of these iron supplements can lead to serious health-related complications such as certain neurogenicdisorders or cancer. All these facts demonstrate the need to have a safe and effective alternative for the management of anemia. To address this pressing issue of anemia, the formulation and evaluation of a polyherbal syrup for anemia offer a promising avenue for holistic treatment. This innovative approach involves blending various medicinal herbs, natural ingredients, and known for theirhematopoietic and iron-boosting properties, ultimately aiming to create an effective and well-tolerated remedy for anemia. This introduction will explore the rationale behind such an endeavor, emphasizing the need for a safe and efficient polyherbal syrup to combat anemia and improve the quality of life for those affected. The formulation and evaluation of a polyherbal syrup for anemia are an intricate process that combines traditional knowledge withmodern scientific research. The combination of various medicinal herbs can offer synergistic benefits, addressing not only the iron deficiency at the core of anemia but also factors like inflammation, oxidative stress, and absorption issues that contribute to the condition's complexity. The formulation of such a syrup involves the careful selection of herbs with known hematopoietic properties, iron-rich constituents, and compounds that enhance iron absorption. Evaluating its efficacy and safety includes rigorous scientific testing, clinical trials, and quality control measures to ensure that the syrup is not only effective but also free from adverse effects. In an era where the demand for natural and holistic treatments is on the rise, a well-formulated and thoroughly evaluated polyherbal syrup for anemia could provide a valuable addition to the arsenal of healthcare solutions. It holds the potential to improve the lives of millions suffering from anemia, offering a safe, convenient, and complementary approach to conventional therapies.

TYPES OF ANEMIA

Types of anemia:

Iron deficiency anemia.Too little iron in the body causes this most common type of anemia. Bone marrow needs iron to make hemoglobin. Without enough iron, the body can't make enough hemoglobin for red blood cells.

Pregnant individuals can develop this type of anemia if they do not take iron supplements. Blood loss can also cause anemia. Blood loss might be due to heavy menstrual bleeding, an ulcer, cancer, or regular use of some pain relievers, especially aspirin.

Vitamin deficiency anemia: Besides iron, the body lacks folate and vitamin B-12 to make enough healthy red blood cells. A diet that doesn't have enough of these and other essentialnutrients can result in the body not producing enough red blood cells. Additionally, some people cannot absorb vitamin B-12. This can lead to vitamin deficiency anemia, also known as pernicious anemia.

Anemia of inflammation:Diseases that result in ongoing inflammation can prevent the body from producing enough red blood cells. Examples include cancer, HIV/AIDS, rheumatoid arthritis, kidney disease, and Crohn's disease

Aplastic anemia: is arare, life-threatening condition that occurs when the body doesn't produce enough new blood cells. Causes of aplastic anemia include infections, certain medications, autoimmune diseases, and being in contact with toxic chemicals. Anemia linked to bone marrow disease:such as leukemia and myelofibrosis, can affect how the bone marrow produces blood. The effects of these diseases range from mild to life-threatening.

Hemolytic anemia: This group of anemias occurs when red blood cells are destroyed faster than the bone marrow can replace them. Certain blood diseases increase how fast red blood cells are destroyed. Some types of hemolytic anemia can be passed through families, which is called inherited.

Sickle cell anemia:It isinherited and sometimes severe condition that is a type of hemolytic anemia. An unusual hemoglobin forces red blood cells into an unusual crescent shape, called a sickle. These irregular blood cells die too soon. That causes an ongoing shortage of red blood cells.

Methods

Syrup will be prepared by any of following method

1. Solution with heat /hot method

2. Agitation without heating

3. Addition of sucrose to a medicated liquid

4. Percolation

CONCLUSION

The studies indicates that polyherbal extract at the dose of 400mg/kg has better anti-anaemic activity. The haematological studies also showed increase in RBC and haemoglobin content and the overall improvement in blood quality. These changes are markedly good at higher testdose

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