CONTRIBUTION OF MEDICINAL PLANTS IN TREATMENT OF ANAEMIA AND AS A HAEMATINIC

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ABSTRACT
Anaemia is a general term for a large number of conditions marked by a reduction in the oxygen-carrying capacity of blood. Red blood cells carry oxygen in hemoglobin, so that anaemia may be caused by a deficiency of blood or red blood cells or of hemoglobin. These conditions may be caused by a variety of other conditions. Injury can cause blood loss, which in turn can cause anaemia. Nutritional deficiency, inadequate amounts of some of the vitamins and minerals that are needed for hemoglobin production, may also cause anaemia. Because hemoglobin is the pigment that makes blood cells red, a lack of hemoglobin will cause the cells to be a paler color, leading to the term hypochromic, lacking in color. The most common cause of anaemia in adults is iron deficiency. An attempt has been made to review plants and plant formulation which do have role in treating anaemia or proving to be good haematanic.

KEYWORDS: Anaemia, Natural Haematinic, Haemoglobin, Iron deficiency.

INTRODUCTION
Anaemia is a condition where body does not have adequate healthy red blood cells (RBCs) or hemoglobin (Hb). Hemoglobin is the pigment of the red blood cells that binds to oxygen. There are differing types anaemia listed below:
1. Anaemia of chronic malady
2. Anaemia of chronic nephrosis
3. Aplastic anaemia
4. Response hemolytic anaemia
5. Fanconi anaemia
6. Iron deficiency anaemia
7. Macrocytic anaemia
8. Pernicious anaemia
9. Erythrocyte anaemia
10. Sideroblastic anaemia

More over similar kinds of symptoms for various styles of anaemia, are listed below:
1. Fatigue and loss of energy
2. Outstandingly speedy heartbeat, notably with exercise
3. Shortness of breath and headache, notably with exercise
4. Issue concentrating
5. Dizziness
6. Pale skin
7. Leg cramps
8. Insomnia.\textsuperscript{[1-3]}

**Anaemia of chronic malady**

This sort of anaemia was thought to occur as a part of a chronic disorder, most frequently infection, disease (especially Rheumatoid Arthritis), or cancer; but, identical method seems to start acutely throughout just about any infection or inflammation. Four pathophysiologic mechanisms are identified:

- Slightly shortened erythrocyte survival via unknown mechanisms in patients with cancer or chronic tumor infections.
- Erythropoiesis impairment as a result of decreases in each glycoprotein (EPO) production and marrow responsiveness to EPO.
- Intracellular iron metabolism impairment.
- Retaining of iron by Reticuloendothelial cells from aging RBCs.

Thus iron is untouchable for hemoglobin synthesis. There's therefore a failure to catch up on the anaemia with enlarged erythrocyte production. Macrophage-derived cytokines (eg, IL-1\(\beta\), tumour death factor-\(\alpha\), interferon-\(\beta\)) in patients with infections, inflammatory states, and cancer cause or contribute to the decrease in EPO production and therefore the impaired iron metabolism\textsuperscript{4}.
Anaemia of chronic nephrosis
Pathological kidneys might not manufacture enough glycoprotein (EPO), a internal secretion that regulates red blood corpuscle production. Less EPO successively suggests that fewer red blood cells and their macromolecule hemoprotein to deliver oxygen to your body's organs. If red blood cells don't seem to be comfortable, then the body doesn't get the correct quantity of the oxygen, leading to anaemia. Different factors that may contribute to anaemia in patients with nephropathy embody iron deficiency, some nourishment deficiencies and therefore the effects of poor nutrition or inflammation.\textsuperscript{[5]}

Aplastic anaemia
This is a disorder of somatic cell failure, resulting in cytopenia within the absence of hypertrophy. The patients stricken by Aplastic anaemia usually gift with repeated infections attributable to leucopenia, fatigue attributable to anaemia and, hemorrhage episodes attributable to blood disease less often. Aplastic anaemia will be iatrogenic by a spread of disorders, however immune mechanism with native activation of antiviral agent gamma is also a typical etiologic pathway. The identification of Aplastic anaemia is established following bone marrow aspiration and diagnostic test. The characteristic findings embody marrow turning into deeply hypo cellular with a decrease all told elements; the marrow area consists of fat cells and marrow stroma. The residual haematopoietic cells area unit morphologically traditional. Malignant infiltrates or pathology is absent.\textsuperscript{[6]}

Hemolytic associate anaemia
This is characterized by an enlarged breakdown of red blood cells (RBC) attributable to machine antibodies with or while not complement activation.\textsuperscript{[7]}

Fanconi associated anaemia (FA)
This is a chromosome recessive malady. It is characterized by innate abnormalities, defective haematogenesis, and a high risk of developing acute granulocytic leukemia and sure solid tumors. Solfa syllable is related to altered growth each in utero and postnatally and it will caused by mutations in a minimum of seven completely different genes. Skeletal abnormalities, radial ray defects like dysplasia of the thumbs and radial dysplasia area unit the foremost common. Varied different defects embody innate hip dislocation, scoliosis, and os anomalies. Affected victim usually have simplified skin hyper pigmentation, Cafe au lait spots, and areas of hypo pigmentation. Low birth weight may be a common feature and therefore the median height of solfa syllable patients lies round the fifth grade. This ends up
in internal secretion deficiency or glandular disorder. Abnormalities of glucose/insulin levels also are common.[8]

**Iron deficiency anaemia (IDA)**

This condition arises once the iron demands of the body don't seem to be met by iron absorption, despite the rationale. People with United Nations agency don't have adequate intake of iron, impaired absorption or transport, physical losses related to written account or generative age, or chronic blood loss secondary to malady. In adults, United Nations agency may result during a wide range of adverse effects together with diminished work or exercise capability, impaired thermoregulation, immune pathology, GI disturbances, and neurocognitive impairment.[9]

**Macrocytic anaemia**

This is outlined as a condition once the mean vegetative cell volume is larger than one hundred Florida. The foremost common etiologies area unit alcoholism, Vitamin B complex deficiencies, and medications. The causes of pathology will be loosely classified as erythrocyte and nonmegaloblastic. Erythrocyte processes area unit characterized on the peripheral smear by macroovalocytes and hyper segmented neutrophils. Nonmegaloblastic processes have spherical macrocytes or macroreticulocytes. In erythrocyte processes, erythrogenic precursors area unit larger than mature red blood cells (RBCs) as a result of Vitamin B complex deficiencies lead to defective synthesis of polymer and polymer, attributable to deficiencies in vitamin B complex, liquid body substance elevations in homocysteine and methylmalonic acid area unit determined ensuing from from defective organic chemistry processes.[10]

**Pernicious anaemia (PA)**

This is characterized by body redness. Pernicious anaemia (PA) (also called Biermer’s malady and Addisonian anaemia) may be a macrocytic anaemia that happens attributable to deficiency of B complex (cyanocobalamin), which, in turn, is that the results of deficiency of factor, a macromolecule that binds avidly to dietary B complex. This factor is chargeable for the transport of B complex to the terminal small intestine for absorption. The deficiency of factor happens attributable to presence of symptom, body redness, (Arterial blood gas), which ends within the destruction of the oxyntic tissue layer and thus, the loss of membrane bone cells, that ordinarily manufacture chlorhydric acid furthermore as factor. Pernicious anaemia
is taken into account associate disease attributable to the frequent presence of internal organ
auto antibodies directed against factor, furthermore as against membrane bone cells.[11]

**Sickle cell anaemia (SA)**

This is related to a sequence of events that occur between chemical action of deoxy
hemoglobin (Hb) S and vaso-occlusion. Inflammatory response, cellular de-hydration and
reper-fusion injury emerge to be vital patho-physiological mechanisms.[12] Erythrocyte
hemoglobin, is selected hemoglobin S. In Hb S, essential amino acid is substituted for
 glutaminic acid within the sixth aminoalkanoic acid of the β chain. Ventilated hemoglobin S is
way less soluble than Ventilated hemoglobin A; it forms a solid gel that causes RBCs to
deform into a edge tool form at sites of low atomic number 8. Distorted, inflexible RBCs
adhere to tube-shaped structure epithelium and plug little arterioles and capillaries that end up
in infarct. Blood vessel plugging predisposes to thromboses and, as a result of sickled RBCs
area unit fragile, the mechanical trauma of circulation causes haemolysis. This chronic
compensative marrow disorder deforms the bones.[13]

**Sideroblastic anaemia**

Siderochrestic anaemia may be a heterogeneous cluster of disorders characterized by the
presence of ring sideroblasts within the bone marrow. It includes both; no inheritable and
innate forms. No inheritable kind has been any classified into upset, secondary and reversible
teams. Innate Siderochrestic anaemia may be a rare condition with clinical and genetic
heterogeneousness. The foremost frequent type is sex chromosome. It is caused by mutations
of delta-aminolevulinic acid syntheses two (ALAS2).[14]

**NATURAL REMEDIES**

1. **Mallow cannabinus**

Anaemia was iatrogenic by associate oral administration of phenyl hydrazine for a period of
eight days to rats. Phenyl hydrazine iatrogenic vital a major decrease within the blood
parameters indicating anaemia and additionally resulted to significant increase within the
mean cell hemoglobin, mean cell volume values, that area unit indicators of pathology. A
liquid leaf extract of H. cannabinus iatrogenic a big increase within the red blood corpuscle
count, hemoglobin concentration and pack cell volume that had been originally shrivelled by
phenyl hydrazine management at periods one week of treatment. The presence of pathology
flips towards traditional because the animals recovered from anaemic condition. The results
obtained steered that H. cannabinus leaves might have medicinal drug properties.[15]
2. **Brillantasia nitens**
The fuel extract of the leaves of B. nitens was tested for medicinal drug activity in phenyl Hydrazine (PHZ) (10mg/kg body weight) iatrogenic anaemic rats. Oral administration of B. nitens extract (400 - 3200 mg/kg/day) to rats antecedently treated with PHZ enlarged the hemoglobin, RBC, corpuscle and PVC at intervals one week. These conclusions lend credence to the standard use of B. nitens leaves within the cure of anaemia.\(^\text{[16]}\)

3. **Hygrophila spinosa**
Ethanolic extract of the aerial elements of the H. spinosa was examined on male albino rat’s sure medical specialty changes. The extract (100 & 200 mg/kg) considerably enlarged the hemoglobin.\(^\text{[17]}\)

4. **Echinacea angustifolia**
Echinacea extract was given to eight horses for forty two days. They found to extend erythrocyte concentration furthermore hemoglobin content.\(^\text{[18]}\)

5. **Annona squamosa**
Anaemia was iatrogenic by associate oral administration of phenyl reducer for a period of seven days in to rats. The medicinal drug activity of associate orally administered liquid extract of magnoliid dicot genus squamosa leaves was studied on haemolytic anemic rats. Phenyl reducer iatrogenic a vital decrease in the blood parameters indicating anaemia and additionally resulted to Vital increase in the, Pulp extract of A. squamosa iatrogenic a vital increase in the red blood cell count, hemoprotein concentration and pack cell volume that had been originally shrivelled by phenyl reducer administration at intervals one week of treatment. The presence of pathology flips towards traditional because the animals recovered from anemic condition. The results obtained steered that A. squamosal leaves might have medicinal drug properties.\(^\text{[19]}\)

6. **Carica candamarsnsis**
This study evaluated the substance composition of unripe mature pawpaw (*Carica candamarcensis*) potable in reference to management of anaemia in pregnant ladies and kids (1-3 years). The pulp was grated and therefore the juice extracted with data electrical juice extractor. It had been sieved with double rolled-up fabric artifact to make sure its smoothness. The contemporary undiluted juice was analyzed for varied nutrients victimization commonplace strategies. The quantities of the juice needed meeting the suggested nutrient
intakes (RNI) for pregnant ladies and kids (1-3 years) were calculated. The results indicated that the juice has medicinal drug potential to forestall and manage anaemia.[20]

7. **Eclipta alba**

A twenty eight day study was undertaken to guage the impact of liquid and ethanolic extracts of root of *Eclipta alba* in Asian catfish, Claris bateachus on hematological variables. The fishes of mixed sexes with a mean weight of 70-80 g were designated as experimental model. Once acclimatization of 1 week in laboratory condition, fishes were haphazardly designated into 3 cluster of twenty fishes every. Type A served as management and received vehicle solely wherever as group B and C served as take a look at received ten ppm and twenty ppm of liquid or ethanolic extract of Eclipta alba root severally up to twenty-eight days. Blood samples were collected on 7,14,21 and 28 days for medical specialty analysis and result cluster was compared statistically with management. RBC, Hb, PCV and corpuscle counts enlarged significantly.[21]

8. **Waltheria indica**

The impact of administration of liquid extract of *Waltheria indica* root on the liver weight quantitative relation, some hemoglobin parameters and enzyme activities of the liver and liquid body substance of iron deficient rats were investigated. Forty exchange unusual person rats (21days) were reared on iron comfortable and iron deficient diets for six weeks before the administration of liquid extract of Waltheria indica root at varied doses of 0.39, 0.78 and a 155 mg/kg weight for seven days. Compared with the management, extract administration created Vital increase in the liver weight quantitative relation, hemoglobin concentration (Hb), packed cell volume (PCV) and erythrocyte, MCH, MCV and MCHC in the slightest degree the dose levels. There was vital increase within the enzyme activity within the liver, excretory organ and liquid body substance of the 2 diet teams. The results disclosed that the administration of liquid extract of Waltharia indica root has caused reversal of the associateaemic condition within the iron deficient cluster and has additionally enlarged the activity of enzyme an iron contains protein within the 2 teams. This is often a sign that liquid extract of Waltheria indica root has medicinal drug potential and therefore lends credence to its use in traditional knowledge medication within the cure of iron deficiency anaemia.[22]

9. **Telfaria occidentalis**

A total twenty rabbits equally divided into four groups [A, B, C and D] were used for testing therapeutic drug activity. Group A served as control group because the management group
was neither bled nor treated whereas group B, C and D were bled to induce clinical anaemia. Blood group B was left untreated whereas group C and D were treated severally with Haematopan B12 [A commercially ready haematinic] and alcohol extract of Telfaria occidentalis. The study disclosed that animals in cluster D recovered faster than those of groups B and C so implying that the extract has sizeable medicine properties which will be explored to the utmost since the plant is getable every season of the year.[23]

10. **Spondias mombin**
The medicinal drug potential of alcohol extract of yellow mombin leaves was investigated in feminine Wistar rats. The extract was orally administered at doses of 250mg/kg and 500 mg/kg weight for forty two days; at the expiration of that histological and medical specialty were allotted. RBC, hemoglobin concentration and pack cell volume were analyzed as illustrious indices of anaemia. Ethanolic leaf extract of yellow mombin iatrogenic a big increase in blood corpuscle count, hemoglobin concentration and packed cell volume of experimental animals. The result obtained collaborates with the employment of the plant domestically as haematinic.[24]

11. **Sphenocentrum jollyanum**
To carry out medicinal drug activity, the seed extract of *Sphenocentrum jollyanum* was given orally at the hierarchic doses of 300, 600 and 1200 mg/kg weight severally to mice for four months. The assessment of medical specialty parameter showed that the seed oil is affected the speed of erythrocyte production. There was vital increase in total erythrocyte count, PCV and hemoglobin concentration in dose dependent manner.[25]

12. **Picrorrhiza**
The antianaemic potential of *Picrorrhiza kurroa* extract on phenylhydrazune iatrogenic anaemia in rats was investigated. The ethanolic extract of Picrorrhiza kurroa leaves is evaluated on anaemia model of rat iatrogenic by intraperitonial injection of phenyl hydrazine at 40 mg/kg for 2 days. Oral administration of those plant extract at 100 mg/kg/day and 200 mg/kg/day to the rats antecedently treated with phenyl hydrazine, enlarged the concentration of hemoglobin and RBC.[26]

13. **Nardostachys jatamansi**
To carry out medicinal drug activity, 24 male unusual wistar rats were used and divided into four teams of half-dozen animals each. The animals of two teams were administered orally...
with liquid suspension of N. jatamansi at the indefinite quantity of 100, 200, 400 mg/kg weight for fifteen consecutive days severally. Medical specialty parameters were evaluated. The extract showed vital increase in hemoglobin and evidenced to safeguard hematopoiesis.\[27\]

14. *Ipomoea batatas*

A total of eight (8) adult new island white rabbits were used for medicinal drug study. They were feed with grower's mash purchased from esteemed sales depot in Mahoney town. They were assigned into 2 teams of 4. The sweet potato vine (sweet potato) extract was administered to the rabbit orally by retreating into a syringe and injected into the mouth of the take a look at animals. One metric capacity unit of the extract was administered daily for the primary two weeks then three metric capacity unit of the extract was administered daily for succeeding two weeks. In conclusion five metric capacity unit of the extract was administered for the last two weeks. The management rabbit got water rather than the sweet potato leaf extract. Haemoatological parameters were evaluated and located to be considerably enlarged once extract administration.\[28\]

15. *Swertia chirata*

The anti-anemic potential of genus *Swertia chirata* extracts on phenyl hydrazine iatrogenic anaemia in rats was investigated. The ethanolic extract of S. chirata leaves is evaluated on anaemia model of rat iatrogenic by intraperitoneal injection of phenyl hydrazine at 40 mg/kg for two days. Oral administration of this plant extracts at 200mg/kg/day and 400 mg/kg/day, to the rats antecedently treated with phenyl hydrazine, enlarged the concentration of hemoglobin, RBC, haematocrit and reticulocytes rate. This result supports a minimum of partly the standard use of S. chirata within the treatment of anaemia.\[29\]

16. *Triclisia dictyophylla*

Haematinic activity of the liquid extract of the basis of *Triclisia dictyophylla* was allotted in vivo victimization unusual person wistar rats. The rats were classified into four teams and completely different concentrations (50, 100, 200 mg/kg) of the extract were administered. Blood samples were collected through ocular puncture and analyzed for some medical specialty existing conditions. At 200mg/kg, the hemoglobin concentration was considerably enlarged. The liquid extract of the basis of T. dictyophylla exhibited medicinal drug property and additionally opposed -platelet activity, this most likely justifies its use natively as medicinal drug healthful plant.\[30\]
17. **Mucuna pruriens**
This study evaluated effectiveness of contemporary and shade-dried shrub from Nigeria pruriens leaf extract in managing anaemia in male unusual person rats. The leaves were accustomed prepare contemporary and shade-dried leaf extracts that were subjected to qualitative analysis victimization commonplace analytical strategies. Fifteen male unusual person rats deliberation 180-250g, classified into 3 teams (A, B and C) of 5 rats each, were used for the study. All teams received rat chow and water ad-libitum. Group B and C received additionally, the contemporary and shade-dried shrub pruriens leaf extracts severally once anaemia induction. Blood samples were collected from the rats for determination of medical specialty parameters once 5-day acclimation, once anaemia induction and at the tip of the study. Contemporary and shade-dried shrub pruriens leaf extracts contained iron, vitamin C and pro-vitamin and considerably enlarged hemoglobin once treatment.\[^{31}\]

18. **Moringa oleifera**
The crude liquid extract of *Moringa oleifera* seed were tested in unusual person rats for medicinal drug activity. The M. oleifera extract were administered for 3 weeks and medical specialty parameters were analyzed. There have been vital will increase in mean hemoglobin concentration of the extract compared to the management throughout the experimental amount. The values indicated vital will increase in hemoglobin concentration one week once withdrawal of the extract. Therefore, this study concludes that the liquid extract of Moringa oleifera seeds contained medicinal drug elements that have got to have increased the many increase in hemoglobin concentration, and pharmacologically, it contains helpful phytochemical constituents.\[^{32}\]

19. **Asteracantha longifolia**
The study was conducted to validate and compare the medicinal drug property of pre flowering and flowering Asteracantha longifolia leaf extract. A phenyl hydrazine iatrogenic anaemic rat model was used for this study. Concentrate predicament extract of succulent aerial a part of pre-flowering and flowering leaf was orally administered at 40mg/kg body for thirty days and equivalence of crude lead was additionally administered to watch furthermore on compare the improvement and iron utilization. Pre-flowering extract effectively improved the concentration of membrane sure hemoglobin, erythrocyte indices and concentration of liquid body substance copper and cobalt; and normalized free hemoglobin concentration.\[^{33}\]
20. **Opuntia elatior**
The medicinal drug activity of associate orally administered potable (5, 10, 15 mg/kg) was studied on HgCl$_2$ iatrogenic anaemic rats. HgCl$_2$ altered the medical specialty parameters by haematolysis characterized by decrease in hemoglobin content and different parameters. The dose of 10 ml/kg and 15 ml/kg showed an honest share of convalescent in hemoglobin. The speedy and progressive recovery of anaemia within the treatment of prickly pear is also attributable to enlarged organic process and/or inhibitor property of betacyanin.$^{[34]}$

21. **Murraaya koenigii**
*Murraya koenigii* (curry leaves) and its combination with *Emblica officinalis* (amla) were evaluated for its antianaemic activity in aluminum chloride iatrogenic anaemic animals. Animals were treated with combination of liquid extract of curry leaves and amla fruit (200 and 400 mg/kg b.w.) severally. All the treatments were given orally and continued up to 30 days. On zero and thirty one day blood samples were collected by retro orbital puncture and medical specialty parameters like hemoglobin (Hb) concentration, RBC count, Mean hemoglobin Volume (MHV), serum iron, ferritin, and inhibitor parameters like super molecule per oxidation (LPO), enzyme (SOD) and enzyme (CAT) were calculable. Results showed that each curry leaves and its combination with amla showed vital opposed anaemic and inhibitor activity however compared to curry leaf extract alone, its mixture with amla show elevated activity. This could flow from to synergistic action of herbs once employed in combination and this mixture is also another to artificial iron medical care in anaemia.$^{[35]}$

22. **Mukia maderaspatana**
The study was allotted to guage the anti-anaemic activity of *Mukia maderaspatana* and *Kedrostis foetidissima* (KF) of family Cucurbitaceae family. Anaemia was iatrogenic by administration of phenyl reducer within the dose of 10 mg/kg for eight days. The rats with hemoglobin content but 14 mg/dl were designated for the study. Each extracts got within the doses of 150 mg/kg and 300 mg/kg orally for four days. Blood specimen was collected from the animals by sinus puncture on 1-4 week of the treatment. Blood specimen was objected to the estimation of red blood cells (RBC), white blood cells (WBC) and hemoglobin (Hb). Each the doses of millimeter and KF extracts considerably increased the erythrocyte content from the initial week of treatment to fourth week of treatment in comparison to it of normal drug (Vitamin B12).$^{[36]}$
23. *Nelumbo nucifera*

Hematopoietic activity of ethanolic extract of aerial a part of plant was performed victimization cyclophosphamide (CP) at the dose of 0.3 mg/kg weight imp. and neuroleptic agent at the dose of 0.2 mg/kg weight iatrogenic a plastic and iron deficiency anaemia in rats severally. The results of analysis of the hematopoietic activity iatrogenic by cyclophosphamide and neuroleptic agent showed that the plant extracts diminish the activity of each at two hundred mg/kg dose. The results support the employment of plant in ancient medication for his or her hematopoietic activity.\(^{[37]}\)

24. **Bhasma**

Anaemia was iatrogenic by administering mercury chloride (9 mg/kg) in to either sex rats having Charles foster strain. Lauha bhasma and Mandura bhasma (11 mg/kg) were evaluated for his or her medicinal drug activity. The determined results counsel that Lauha bhasma and Mandura bhasma possess vital medicinal drug and cytoprotective activity.\(^{[38]}\)

25. **Poovarasampattai kudineer choornam**

Twenty four rats were induced anaemia by oral incubations of phenyl hydrazine 100mg/kg weight daily for eight days. Rats that developed anaemia with hemoglobin concentration very low, the administration of poovarasam pattai kudineer choornam created a big increase within the medical specialty parameters.\(^{[39]}\)

**Table 1: Plants having role in Anaemia and as medicinal drug.**

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Plant</th>
<th>Local Name</th>
<th>Part Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Eryngium caeruleum (Umbeliferae)</td>
<td>Pahari Gajar</td>
<td>Roots</td>
</tr>
<tr>
<td>2</td>
<td>Fagonia cretica (Zygophyllaceae)</td>
<td>Dhanvayaasa</td>
<td>Plant ash</td>
</tr>
<tr>
<td>3</td>
<td>Naregamia alata (Meliaceae)</td>
<td>Tin paani</td>
<td>Roots</td>
</tr>
<tr>
<td>4</td>
<td>Ixora pavetta (Rubiaeaceae)</td>
<td>Nevaari</td>
<td>Flowers</td>
</tr>
<tr>
<td>5</td>
<td>Atylosia scarabaeoides (Fabaceae)</td>
<td>Kulthi</td>
<td>Leaves</td>
</tr>
<tr>
<td>6</td>
<td>Olax scandens (Olacaceae)</td>
<td>Rimil beeri</td>
<td>Bark</td>
</tr>
<tr>
<td>7</td>
<td>Diospyros melanoxylon (Ebenaceae)</td>
<td>Thumbi</td>
<td>Flowers</td>
</tr>
<tr>
<td>8</td>
<td>Barleria cristata (Acanthaceae)</td>
<td>Raktajhinti</td>
<td>Root</td>
</tr>
<tr>
<td>9</td>
<td>Embelia ribes (Myrsinaceae)</td>
<td>Vidang</td>
<td>Whole</td>
</tr>
<tr>
<td>10</td>
<td>Ficus hispida (Moraceae)</td>
<td>Anjir</td>
<td>Fruit</td>
</tr>
<tr>
<td>11</td>
<td>Pterocarpus marsupium (Fabaceae)</td>
<td>Kino</td>
<td>Heartwood</td>
</tr>
<tr>
<td>12</td>
<td>Coccinia indica (Cucurbitaceae)</td>
<td>Tindi</td>
<td>Whole plant</td>
</tr>
<tr>
<td>13</td>
<td>Borassus flabellifer (Palmae)</td>
<td>Taada</td>
<td>Plant jaggery</td>
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<td>14</td>
<td>Nasturtium officinale (Brassicaeae)</td>
<td>Chhuch</td>
<td>Seeds</td>
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<tr>
<td>15</td>
<td>Ziziphus jujube (Rhamnaceae)</td>
<td>Unnaab</td>
<td>Heartwood</td>
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<tr>
<td>16</td>
<td>Benincasa cerifera (Cucurbitaceae)</td>
<td>Kaddu</td>
<td>Fruits</td>
</tr>
<tr>
<td>17</td>
<td>Aspargus racemosus (Liliaceae)</td>
<td>Shatavari</td>
<td>Roots</td>
</tr>
<tr>
<td>No.</td>
<td>Plant Name</td>
<td>Common Name</td>
<td>Part Used</td>
</tr>
<tr>
<td>-----</td>
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<tr>
<td>18</td>
<td>Withania somnifera (Solanaceae)</td>
<td>Ashwagandha</td>
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<tr>
<td>19</td>
<td>Borhaavia diffusa (Nyctaginaceae)</td>
<td>Punarnava</td>
<td>Roots</td>
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<td>20</td>
<td>Solanum melongena (Solanaceae)</td>
<td>Baigan</td>
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<td>21</td>
<td>Tinospora cordifolia (Menispermaceae)</td>
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<td>Vetiveria zizaniodes (Poaceae)</td>
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<td>Vitis vinifera (Vitaceae)</td>
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<td>Commiphora mukul (Burseraceae)</td>
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<td>25</td>
<td>Cassia absus (Caesalpinaceae)</td>
<td>Chaksu</td>
<td>Leaves</td>
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<td>26</td>
<td>Cressa cretica (Convolvulaceae)</td>
<td>Lana</td>
<td>Whole plant</td>
</tr>
<tr>
<td>27</td>
<td>Cucumis trigonus (Cucurbitaceae)</td>
<td>Jangal Indrayan</td>
<td>Fruits</td>
</tr>
</tbody>
</table>

Plants mentioned on top of in Table one area unit a number of the plants have that area unit indicated for anaemia and additionally acts as haematinic.[40-43]

**CONCLUSION**

Anaemia, one in every of the foremost life blood disorders, happens once the amount of healthy red blood cells (RBCs) within the body becomes too low. Medicinal drugs area unit thus known as substances that might improve this condition. In developing countries like Bharat, it’s hoped that healthful plants mentioned during this review can be explored as potential sources as a medicinal drug and in cure of anaemia. Finally, natural merchandise are getting additional vital in modern-day society, as man is moving faraway from artificial merchandise which might be harmful to the environment and beings fitness. This review has highlighted some healthful plants that was evaluated for its anti-anaemic activity and located to own promising leads to treating anaemia and to boot some sources as a medicinal drug. These plants reviewed although don’t eradicate these health issues however facilitate to regulate and allows patients to measure stable lives.

**REFERENCES**

3. Feather. A. et. al., EMQs for medical students, Edn 2, 1, pp 89.
22. Oladiji AT et al., Evaluation of haematinic potential of aqueous extract of Waltheria indica (L.) root on rats reared on iron sufficient and iron deficient feeds.


34. Chauhan SP et al., Haematinic evaluation of fruits of Opuntia elatior Mill L on mercuric chloride induced anaemic in rats.


42. Indian Medicinal Plants: A Compendium of 500 Species, Volume 5, Orient Blackswan, 1996.