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ANTENATAL CARE WITH LOTUS

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ABSTRACT:

Ante natal care is an important period where the woman's health and behavior in pregnancy affect her baby. A poor diet, smoking, intake of alcohol, certain drugs, and severe illnesses can hold back the baby's development. Hence during pregnancy care and proper medications become inevitable. Diet is recognized as one of the major environmental factors influencing the development of embryo and fetus, as well as maternal health particularly, micronutrient deficiencies have been associated with significantly high reproductive risks, ranging from infertility to fetal structural defects and long-term diseases. There is evidence that indicates a role for micronutrients supplementation in preventing some pregnancy disorders. Among these, increasing calcium and magnesium intake can reduce the risk of pregnancy-induced hypertensive disorders; ensuring adequate intake of iron, zinc, iodine, calcium and folic acid during pregnancy can improve pregnancy outcomes; increasing the intake of folic acid before pregnancy can reduce birth defects. Even though Folates are abundantly available in foods rural population needs a instant and cheaper source of Folate. Lotus is abundantly used in Antenatal care in Siddha medicine. The earlier review suggested the presence of Iron and calcium in it. An attempt was made to analyze its folic acid content and found to be rich in folic acid. It is a cheaper, Efficacious drug having iron and calcium with it can help the rural masses in Ante natal care.

KEY WORDS:

Ante natal care, Siddha medicine, Thamarai, Folate supplementation

INTRODUCTION:

Siddhars upon their intuition quoted about water or marine products as Therapeutic agents. Oyster shells, Pearls, Corals, Amber, Os sepiae and Conch shells are even now used much in ISM drug industry(1). 25% of medicines mentioned by Siddhars are from marine and aquatic sources(1). Aquatic and water bed plants play major role in health care maintenance. Quality health care concentrated more in usage of natural resources in nutritional supplements. Synthetic and chemical nutrients have

been replaced by herbal and marine resources. "Spirulina" emerged as a competent alternative for vitamin supplements, Oyster shell calcines yielded more therapeutic calcium than synthetic.

When a reference made in the prescriptions of medicines by Siddhars for antenatal care it gave a gateway opening for identification of *Nelumbium speciosum* as the commonest drug prescribed in all months. This led to a deeper research in the area of Nutraceutical usage of *Nelumbium speciosum*

Thamarai- *Nelumbium speciosum*

Nelumbium Speciosum (Nymphaeaceae) - *Nelumbo Lutea* (Sacred Water Lotus) - Lotus Root

Botanical Name: *Nelumbium Speciosum* WILLD.

Family Name: Nymphaeaceae.

Tamil Name : Tamarai, Thamarai, Tamarai-k-kilanku, Centamarai, Ambal, Shivappu-tamarai, Tamarai(red), Tamaray Kalung, Kamalam.

Common Name : Sacred Water Lotus, Sacred Water Lilly, Pink Lotus, Nelumbo Lutea, Lotus Root, Lotus rhizome.

Sanskrit Name : Ambhoruna, Aravinda, Camala, Cuseshaya, Induvara, Kamala, Kamalam, Kokonad, Mabotpala, nalina, Padma, Padmachari, Panceruba, Pankaja, Pushcara, Rajiva, Sabafrapatra, Sarasa, Sarasiruba, Satapatra, Shatapatra, Svetakamala, Tamarasa, Visaprasuna.

Hindi Name: Kanwal.

Malayalam Name: Aravindam.

Kannada Name: Tavare.

Telgu Name: Damara, Erra-tamara, Tamara.

Marathi Name: Kamala.

Medicinal Uses:

- The rich fiber content of lotus roots stimulates peristalsis and relieves constipation.
- It is one of the ingredients used for a macrobiotic remedy treat colds accompanied by fever or stomach and intestines ailments, such as tuberculosis, asthma, and coughing, for heart disease, and to increase energy and neutralize toxins.
- Effective to prevent or cure chronic fatigue, nervous non-stability, and insomnia.
- Detoxication function removes Nicotine.
- It makes skin clean and fresh to drink tea made of lotus roots and lotus leaves. Lotus root juice prevents high blood pressure and removes hangover and phlegm.
- Neutralization function to remove various poisons.
- Effective to cure Lung disease, anemia, melena, beriberi, etc .
- Stops bleeding, breaks up blood stasis - used for many types of bleeding especially due to lung and stomach heat - vomiting blood, coughing blood.
- Good food for curing low blood pressure.
- It also stops diarrhea, clears Heat and improve appetite. Lotus roots contain much iron, vitamins B & C.

- If the plaster compress was applied to the face, it can relieve sinus congestion and inflammation.

Lotus roots have been found to be rich in dietary fiber, vitamin C, potassium, thiamin, riboflavin, vitamin B6, phosphorus, copper, and manganese, while very low in saturated fat. Lotus root is said to melt mucus accumulation in the body, especially in the respiratory system. Lotus Root Tea is also said to be effective, particularly to relieve coughing. A macrobiotic remedy combining lotus root and kuzu is often used to treat colds accompanied by fever and/or troubled stomach and intestines.

Lotus root has traditionally been used to treat various respiratory problems. Small doses of the juice extracted from raw, finely grated lotus root is prescribed for lung-related ailments, such as tuberculosis, asthma, and coughing, for heart disease, and to increase energy and neutralize toxins.

It also stops diarrhea, clears Heat and improve appetite. Lotus roots contain much iron, vitamins B & C. Drinking 2 to 3 glasses of lotus root juice a day can stop bleeding of the esophagus an stomach, bleeding of the rectum, intestines or stomach, nose bleeding or gum bleeding. Lotus root soup also serves similar purposes. Patients with high fever can drink it cold, while those with steady temperature should drink it warm. Drinking water chestnut juice mixed with pear juice can help clear phlegm while mixing it with grape juice and carrot juice eases dry tongues.

RESEARCH SCAN (WEALTH OF INDIA)

water	: 83.80
protein	: 2.7
fat	: 0.11
Reducing sugar	:1.56
sucrose	:0.41
starch	:9.25
fiber	:0.80
calcium	:0.06
Vitamins	
Thiamin	:0.22
Riboflavin	:0.06
Niacin	:2.1
Amino acid	:15
Dried carpels	
Water	:10.0
Protein	:17.2
Fat	:2.4
Carbohydrate	:6.6
Fiber	:2.6
ash	:3.8
Calcium	:138
Iron	
phosphorus	:294
Ascorbicacid	:15

EARLIERSTUDIES:

- **Antioxidant:** (4) Study of Nelumbo nucifera seeds yielded alkaloids, saponins, phenolics and carbohydrates with significant antioxidant activity. (2) Study showed the antioxidant capacity of lotus leaves is partially attributed to its flavonoids.
- **Memory / Learning:** Study in Wistar rats showed N. nucifera rhizome extract may improve learning and memory with enhancing neurogenesis in the dentate gyrus of the hippocampus. (5)
- **Diabetes / Aldose Reductase Inhibition:** Aldose reductase is the principal enzyme in the polyol pathway critical in the pathogenesis of diabetes. A methanol extract study showed an aldose reductase inhibitory activity.
- **Antipyretic:** Ethanol extract study of NN showed dose-dependent antipyretic effect comparable to that of paracetamol, a standard antipyretic agent. Study revealed N nucifera is effective in reducing body temperature in yeast-induced pyrexia in rats. (7)
- **Diuretic:** A methanol extract study on the

rhizomes of NN exhibited dose-dependent diuresis, with significant increase in natriuretic and chloruretic activity(9)

- **Hypoglycemic / Hypolipidemic:** A methanol extract study evaluated the flavonoids from NN and showed significant reduction of fasting blood glucose, total cholesterol and triglyceride levels with an increase in HDL cholesterol suggesting future studies on its use for diabetes mellitus. (8)

- **Antiobesity:** Nelumbo nucifera leaf extract study in mice was shown to impair digestion, inhibit absorption of lipids and carbohydrate4s, accelerate lipid metabolism and up regulate energy expenditure—all beneficial for the suppression of obesity.(11)

Antiinflammatory: Supplementation with Lotus Plumule significantly inhibited the production of pro-inflammatory cytokine TNF-a and increased anti-inflammatory cytokine IL-10. (12)

- **Hypoglycemic / Antidiabetic:** Oral administration of ethanolic extract of rhizomes of NN markedly reduced the blood sugar of normal, glucose-fed hyperglycemic and STZ-induced diabetic rats. The extract exhibited 73% and 67% activity of tolbutamide in normal and diabetic rats, respectively.

- **Anti-Estrogenic:** Nelumbo nucifera has anti-estrogenic effects without altering the general physiology of female rats.(13)

- **Psychopharmacologic Effects:** Methanolic extract of NN was found to cause reduction in spontaneous activity, decreased exploratory behavior, reduction in muscle relaxant activity by rotarod, and potentiation of pentobarbitone induced sleeping time.

- **Cytoprotective / Antioxidant:** Study confirms the cytoprotective and antioxidant activity of N nucifera and Aegle marmelos by stabilization of plasma membrane and modulation of antioxidant systems against stress induced by heavy metals in Cyprinus carpio.

- **Antimicrobial / Essential Oil:** Study of Nelumbo nucifera pollen essential oil show inhibitory effect on growth of food borne pathogenic bacteria in low concentration suggesting the possibility for use as food preservation additive.

- **Antioxidative / Anti-Tyrosinase Activity:** Study isolated kaemferol, kaempferol 3-O-D-glucopyranose, sitosterol 3-O-D-glucopyranoside and 2 flavanoids. A stamen extract showed antioxidative activity twice that of green tea and anti-tyrosinase activity at the same level as that of a mulberry extract. (20)

- **Acute and Subchronic Oral Toxicity Study:** The oral lethal dose of N. nucifera stamens extract in male and female rats is in excess of 5000 mg/kg and the no-observed-adverse-effect level of the extract is considered to be 200 mg/kg/day(21)

Folic acid

Folic acid the essential nutrient to run a safe antenatal period has been studied over for its presence in flower and carpels of lotus. Folic acid deficiency lead to Neural tube defects and people with bifid spine will be born. Folic acid is also useful in treating anemia and one of the best nutrients. The sample powder of carpels and flowers are sent to *CFTRI* for analysis and results were discussed

RESULTS:

- One gram of the powder showed the presence of 0.20 milligram of folic acid (Joaca – 1992 Methodology).

DISCUSSION:

With the obtained results it is clear that a lotus may be a better source in an antenatal care due to the presence of folic acid (.20 mg/gm) which will supplement daily need of 400 micrograms (mcg) of folic acid, iron 2.3 mgs/gm and calcium 136 mg .Being a cheaper, natural , efficacious it can be substituted for synthetic vitamins and micro nutrients .The Plant is also said to be Safe upto 5000mg/kg . (Kunanusorn P, Panthong A et al,2011).

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