



## Estrogen supplements-A botanical review

**Rajalekshmi**

Assistant Professor, Department. of Swastavrutta, Parul Institute of Ayurved Parul University, Vadodara, Gujarat, India

### Abstract

Estrogen is a hormone that females create more of it and it helps to develop and maintain both the reproductive system and female characteristics. The decline in Estrogen level during menopausal period affects the body. Phytoestrogens which are naturally occurring in plant compounds have structurally and/or functionally similarity to mammalian estrogens. They have health benefits which includes a lowering risk of osteoporosis, heart disease, breast cancer, and menopausal symptoms. If there is knowledge of plants having phytoestrogen naturally will help to fight against the above-mentioned diseases.

**Keywords:** estrogen, osteoporosis, phytoestrogen

### Introduction

#### Aims and Objectives

1. To understand the concept of Phytoestrogens.
2. To understand plants which are having Phytoestrogens naturally.

#### Materials and Methods

1. Botanical Text Books
2. Google Search

Estrogen is produced by the ovaries, adrenal glands and fat tissues.

When compared to males, females produce it in more quantity. It also contributes very much to cognitive health, bone health, the function of the cardiovascular system, and other essential bodily processes [1].

#### Types of Estrogen

1. **Estrone:** One which is present in the body after menopause. Considered as the weaker form of estrogen.
2. **Estradiol:** Most common type in women with child bearing. Low levels result in weight gain and cardiovascular disease. High level result in acne, loss of sex drive, osteoporosis, and depression. Very high levels can lead to the increase of the risk of uterine and breast cancer.
3. **Estriol:** Main type of estrogen present during pregnancy. It helps for the uterus to grow and prepares the women to get delivered.

#### Main actions of estrogen

1. Vasodilator and Hypotensive agent
2. Growth and Maturation of Bone
3. Immuno Stimulator
4. Neuro Protective Agent
5. Anti Oxidant Agent

#### Phytoestrogens

They are considered as the natural supplements for estrogen. They are naturally-occurring plant compounds that are structurally and functionally similar to mammalian estrogens and their active metabolites. Phytoestrogens are

present in various foods in very small amounts. Hence understanding those food items and taking them in daily diet can attribute as supplemental sources of Estrogen [2].

#### Sources of Phytoestrogens

The foods which are sources of Phytoestrogens include some Vegetables, fruits, grains and legumes, fruits like apples, carrots, pomegranates, strawberries, cranberries, grapes and Vegetables like lentils, mung beans and sprouts. If there is proper understanding of the vegetables and fruits of the specific area is necessary to incorporate it into diet. The various sources include:

1. **Common beans:** *Phaseolus vulgaris*: Herbaceous annual plant grown for its edible dry seeds or unripe fruit. It is also known as Common Beans or French Beans. It is having Osteo protective effect. Considered as the useful for postmenopausal osteoporosis [3].
2. **Soyabean/Glycine max:** It contains phytoestrogens, plant-derived diphenols with a structural similarity to the steroidal estrogens. It is efficacious in increasing the maturation indices of vaginal cells and considered during preventive interventions against menopausal effects and vaginal atrophy [4].
3. **Green peas/Pisum sativum:** The higher concentrations of isoflavones which are isolated from green pea seeds and lignans from rye has activity of inhibition of progesterone production whereas higher concentrations of rye lignans elevated estradiol production in JEG3 cells [5].
4. **Amarakka-Lima beans:** It is rich in antioxidants and other substances which can help in preventing the illnesses. This is the mainly endowed with fiber and protein. The nutritional effect makes it a best source for protein.
5. **Yam-Dioscorea alata:** Diosgenin is one of the possible active compounds in Dioscorea and it is the main source of pharmaceutical corticosteroids and sex steroids. The increased serum estrone levels, which helps the declined estrogens in postmenopausal women. The increase in serum SHBG levels, the decreases in serum free androgen index, urinary 16-hydroxyestrone, urinary isoprostane and plasma cholesterol levels,

potentially protect postmenopausal women against the risk of breast cancer and cardiovascular diseases <sup>[6]</sup>.

### Conclusion

Phytoestrogens are plant derived compounds which are found in commonly used dietary items. Lowering the risk of osteoporosis, breast cancer, Cardio-vascular diseases and pacifying menopausal symptoms are the main benefits. The judicious intake of the food items should be adopted to maintain a balanced diet there by reducing the illness.

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