

STUDY ON PIRANDAI POWDER FOR MARGIN LIST WOMEN WITH OSTEOPOROSIS IN TIRUNELVELI DISTRICT

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ABSTRACT

In modern era non-communicable diseases are rapidly increasing in developing countries including India. (Aquigley Maria, *et al.*, 2006). Osteoporosis, a silent epidemic has become a major health hazard in recent years, afflicting over 2000 million of people worldwide.(Svedbom, *et al.*, 2013) Osteoporosis is one of the most widespread metabolic bone disorders, affecting one in three women and one in twelve men at some point in their lives. (Meryl, *et al.*, 1997)

Pirandai powder with high calcium and fibre content which helps to increase the serum calcium level and to reduce body weight. This was decided to distribute to the selected respondents. Pirandai powder also gave quicker healing of broken bones. The nutritional status of the osteoporotic women was assessed by investigating the anthropometric measurements of the respondents and the dietary pattern using food- frequency method. The shelf life of the pirandai powder was tested once in three day up to 30 days. Microbial and nutrient analysis were carried out for the studies.

Key words : *Osteoporosis, Socioeconomic status, nutritional status , Pirandai Powder*

INTRODUCTION

The osteoporosis is a deficiency of certain hormones, as androgen in men and estrogen in women. Menopause is a foremost factor that cause lower estrogen levels and increase women's risk for osteoporosis. Risk factors for osteoporosis include genetics trouble, absence of exercise, deficiency of calcium and vitamin D, malabsorption, high-dose oral corticosteroids, low body mass, smoking, alcohol intake, rheumatoid arthritis, and family history of osteoporosis. (Malay, *et al.*, 2015)

Osteoporosis is a bone disease which characterized by low bone mass as result of body

loses too much bone and makes too little bone. This leads to increased bone fragility so increased susceptibility to fracture, especially in the hip, spine, wrist and shoulder.

Keeping in mind, pirandai is used as a herbal support for treating hypocalcaemia in osteoporosis women. The Pirandai, contain a various Ayurvedic formulations and medicinal properties of *C. quadrangularis* include antimicrobial activity, analgesic, anti-inflammatory activity, bone healing, weight loss, anti-diabetic, digestive disorders treatment etc. This plant also possesses antioxidant as well as anticancer activity (Arshad et al., 2016).

Pirandai treats all digestion related problems like gastritis, indigestion and lack of appetite. Pirandai is very good for treating sprains and swollen joints. It is also one home remedy in the village use often for minor injuries, as it heals the minor sprains and fractures very fast.

P. longum (Thippili) is a medicinal herb commonly used in traditional medicine and has a distinct odor and a pungent bitter taste. It is known as a remedy against gonorrhoea, menstrual pain, viral hepatitis, tuberculosis, chronic malaria, sleeping problems, chronic bronchitis, asthma, chronic gut-related pain paralysis of the tongue, diseases of the spleen, cough, tumors and arthritis. The investigator believes that focusing on the needy osteoporosis women in Tirunelveli and to provide awareness and distribute to them. Hence the study entitled on “Pirandai powder for margin list women with osteoporosis in Thirunelveli District”.

OBJECTIVES

- To select the women with osteoporosis in the selected area.
- To study the socio economic status of the selected osteoporosis respondents.
- To assess the nutritional status and dietary pattern of the osteoporosis respondents.
- To prepare and supplement the pirandai powder.

METHODOLOGY

The nutritional status of the osteoporosis women was assessed by socio economic status, anthropometric measurements and the dietary pattern using food- frequency method. About 40 osteoporosis respondents were randomly selected for the study. The investigator chosen the Pirandai and formulated with dryginger, pepper and thipilli were raw ingredients taken for the studies.

The shelf life of the pirandai powder was tested once in three days up to 30 days. Microbial analysis was carried out by total plate count and the nutrients content were analyzed for the prepared pirandai powder the pirandai powder was popularized and suggested to the osteoporosis women.

RESULT AND DISCUSSION

Size of the Families of the Respondents

Table - 1
Size of the Families of the Respondents

Family Size	Experimental Group (%)	Control Group (%)
<4	35	60
4-6	45	35
>6	20	5
Total	100	100

The table 1 describes that 35% and 60% of the selected respondents had < 4 family members in both groups. The experimental and control groups about 45% and 35 % had 4-6 family members. And about 20% and 5 % had >6 family members in both the groups respectively.

Educational Status of the selected respondents

Table 2
Educational status of the selected respondents

Educational Status	Experimental Group (%)	Control Group (%)
Illiterate	30	25
School	35	30
U.G	25	30
P.G	10	15
Total	100	100

Table 2 said that in experimental group, 30% of the respondents were illiterate. 35%, 25% and 10% were up to school level, under graduates and post graduates respectively. And in control group, 25% of the respondents were illiterate, 30%, were under school level and under graduates only 15% respondents were post graduates respectively.

Occupational Status of the selected respondents**Table 3****Occupational Status of the Selected Respondents**

Occupational Status	Experimental Group (%)	Control Group (%)
Business	35	45
Teaching	15	10
Professional	5	5
Others	45	45
Total	100	100

The table 3 depicts that the details of occupation of the selected respondents. About 35%, 15%, 5%, 45% of the respondents in experimental group were in business, teaching, professionals and in other employments respectively. While in control group 45%, 10%, 5% and 45% of the respondents were in business, teaching, professionals and in other employments respectively.

Income Status of the Families of the respondents**Table 4****Income status of the families of the Respondents**

Total Family Income	Experimental Group (%)	Control Group (%)
Below Rs10,000	40	40
Rs 10,000-15,000	45	60
Rs 15,000-20,000	15	-
Total	100	100

The table 4 explained that about 40% families of the respondents had income about below Rs.10,000, 45% of them had in between Rs.10,000 – 15,000 and 15% of them had in between Rs.15,000 – 20,000 in experimental group. While in control group, about 40% families of the respondents had income below Rs. 10,000 and 60% of them had in between Rs.10,000 – 15,000 respectively. The study observed that majority of the respondents were low income groups.

Food Frequency of the selected respondents

Table 5

Frequency of Food Intake of the selected respondents

Food frequency intake of various foods of the respondents

Food Groups	Percentage Frequency of food intake(n=40)				
	Daily	Weekly	Fortnightly	Occasionally	Never
Cereals and millets	100	-	-	-	-
Pulses and legumes	14	32	32	22	-
Green leafy vegetables	0	17	22	34	27
Roots and tubers	29	38	30	-	3
Other vegetables	24	26	26	20	4
Fruits	-	30	27	43	-
Milk and milk products	27	40	33	-	-
Fats and oils	86	14	-	-	-
Sugar and jaggery	100	-	-	-	-
Flesh foods	0	48	47	5	-
Junk/ Fast foods	55	45	-	-	-
Carbonated beverages	68	32	-	-	-
Chocolates and baked sweets	79	21	-	-	-

From the table 5 observed that all the respondents were consumed daily cereals, nuts and oils milk & milk, sugar and sugar products. The majority of the respondents consumed once in a week

Majority of the respondents take green leafy vegetables once in a week or once in a month. But mostly other vegetables were consumed daily by the respondents. In case of roots and tubers, the consumption of the respondents were noted very high.

It was observed that all the respondents, were consumed nuts and oils daily. The intake of Fruits, was observed that rarely and once in a week.

The intake of non veg majority of the respondents of the respondents consumed once in a week. Milk was daily consumed by all the respondents. While other products like butter was occasionally taken. Sugar is daily consumed by all the respondents than jaggery. It was concluded that majority of the patients preferred vegetables than non-vegetarian.

CONCLUSION

As a conclusion, a serious concern should be taken on Osteoporosis. Because of the dormant properties of the disease, it is hard to recognize the symptoms until fracture occurs.

Several studies have shown that androgen deficiency can lead to osteoporotic fractures. Therefore, various treatments should be considered to promote the healing period of the fracture. Natural products could be considered as a natural heritage from mother nature as a source of medicine. Thus, more extensive studies should be conducted to explore the healing properties of different types of medicinal plants to produce an alternative and effective treatment for the osteoporotic patient.

A group of osteoporosis sufferers aged between 40 to 70 were encouraged to take gentle exercise on a regular basis, consisting of either brisk walking or low impact gymnastics. The scientists then kept track of bone density in their spines. The results suggested that while exercise did indeed help to maintain bone density, this quickly declined once exercise ceased. The experts concluded that continued exercise over a long period of time is required to maintain bone mass.

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