

## SPECIMEN FORMAT FOR THESES OF MONTH

**Faculty** : **Home Science**

**Department** : **Food Science and Nutrition**

**Branch/ Area:** :

**Sub Subject Heading:** :

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**Title of the thesis** : **Effect of Functional foods and Lifestyle modifications on Hypertensive men and women in Coimbatore, Tamil Nadu**

(i) In Roman Script -

(ii) In roman Script -

**Nomenclature of Degree:** : **Ph.D**

**Month & Year of Enrolment:** : **13.09.2011**

**Month & Year of Registration:** : **13.09.2011**

**Month & Year of Submission:** : **January, 2016**

**Month & Year of Award** : **June, 2017**

**Name of Supervisor** : **Dr.,M.Amirthaveni**

**Designation of Supervisor** : **Professor and Head**

**Centre/department/school in which research was conducted** : **Avinashilingam University for Women**

**University's Name & Address** : **Avinashilingam Institute for Home Science and Higher Education for Women, Mettupalayam Road, Coimbatore – 641 043**

## **Abstract within 300 words:**

### **i) Major objectives :**

- ii)** Study the prevalence of hypertension in urban and rural areas
- iii)** Determine the associated etiological factors among the selected hypertensives
- iv)** Assess the demographic profile, dietary habits, lifestyle pattern and nutritional status of the selected hypertensives
- v)** Intervention with functional foods and lifestyle modification strategies
- vi)** Evaluate the impact of intervention strategies

### **vii) Methodology :**

Health camps were conducted at selected rural and urban areas of Coimbatore district, Tamil Nadu to identify the hypertensives patients. About 256 hypertensives from rural and 257 hypertensives from urban identified in the age group of 25-55 years were selected for the research. The demographic details, dietary habits, family and personal medical history, food habits and lifestyle pattern like history of smoking, tobacco use, alcohol intake and their psychosocial behavior were elicited from selected 513 hypertensives using a standardized questionnaire.

Global Physical Activity Questionnaire (GPAQ) given by WHO (2015) was used to elicit the information on the physical activity pattern and anthropometric measurements namely weight, height, waist/hip ratio and BMI were recorded for all the 513 selected hypertensives in urban and rural areas. The Food intake pattern of the hypertensives was recorded using 24hr recall method. The blood parameters namely fasting blood glucose, postprandial blood glucose, lipid profile, serum sodium and potassium levels were analysed using standard procedure for the sub samples (90 men and 90 women) in a laboratory before and after intervention. Blood pressure was also measured once in a week during intervention period.

Nutritious supplement was developed with pulses, banana powder, coconut deoiled meal and it was developed into recipes. Highly acceptable recipe was selected for supplementation. It supplied nearly 23 percent of potassium daily requirement of adults. From the identified hypertensives 90 women and 90 men hypertensives with SBP 120mg/dl to 139mg/dl and DBP 80mg/dl to 89mg/dl in the age group of 25-45 years were grouped into experimental (60 men and 60 women) and control group (30 men and 30 women) groups. In experimental group 30 men and 30 women were grouped for dietary intervention and 30 men and 30 women were grouped for

lifestyle intervention. The supplementation was carried out for 180 days and lifestyle intervention with yoga and laughing therapy was carried out for 120 days.

Impact of the interventions was evaluated through anthropometric measurements, biochemical parameters and blood pressure recorded before and after the intervention period.

#### **viii) Findings:**

- Most (42 per cent) of the selected hypertensive men and women in both rural and urban areas were in the age group of 40-49 years. Among 20-29 years, the percentage of hypertensive men (9-16 per cent) was greater than women (2-8 per cent). Men were prone to hypertension at early age than women in both areas.
- Only less than one quarter of rural and urban were consuming less than 10 g/day of salt where as the rest three fourth consumed more than twice the recommended amount given by WHO.
- It was adverse to note that the utmost part of the selected hypertensives in both rural and urban areas was not doing any physical exercises. It might be due to their lack of interest and lack of time. Some form of physical exercise like walking, cycling, jogging, gardening, shuttle etc was observed in 22 - 35 per cent of rural and 36-45 per cent of urban hypertensives. Women were generally physically inactivity than their counter parts.
- Maximum percent of men in urban and rural were found to have pan chewing, smoking and alcohol drinking habits
- The mean weight of the selected hypertensives was found to be more when compared to standard weight given by ICMR. Compared to selected rural hypertensives, urban hypertensive men and women had higher weight in prehypertension, hypertension stage -I and hypertension stage -II.
- The nutrient intake of hypertensives was excess in energy, fat and sodium and inadequate in protein, fibre, potassium, calcium and iron. Adequate intake of B complex vitamins and vitamin C was observed in most of the selected hypertensives. Food and nutrient intake was similar in both rural and urban hypertensives.
- The group DIM (Dietary Intervention Men) showed SBP and DBP as 122.33 mm Hg and 80.80 mm Hg and the group DIW (Dietary Intervention Women) displayed SBP as 120.47 mm Hg and DBP as 79.33. The decline in SBP was more (8.30mm Hg) in group DIM when compared to group DIW (7.30 mm Hg) whereas the decrease in DBP was more in

group DIW (3.90mm Hg) in comparison with group DIM (3.13mm Hg). In contrast, the control groups showed slight increase in SBP and DBP level.

- With respect to blood pressure level, the group LIW (Lifestyle Intervention Women) recorded a depletion from 129.5 mm Hg to 120.90 mm Hg in SBP and from 83.50 mm Hg to 79.37 in DBP. The group LIM (Lifestyle Intervention Men) showed a decrease in SBP from 130.63 mm Hg to 122.33 mm Hg and reduction in DBP from 83.5 mm Hg to 79.03 mm Hg. The decrease was found to be more in group LIW when compared to group LIM.
- Comparison of impact of intervention showed that fasting blood glucose, postprandial blood glucose, glycosylated haemoglobin were found to be reduced more in lifestyle intervention when compared to dietary intervention.
- Total cholesterol, Triglyceride, VLDL, LDL reduction was found to be more in lifestyle intervention. The HDL was increased almost 4.5 times in lifestyle intervention groups when compared to dietary intervention groups.
- Blood pressure reduction was found to be more in lifestyle intervention group when compared to dietary intervention group.
- The present study showed that both dietary intervention and yoga intervention can be adopted as a complementary therapy program to enhance the beneficial effects of standard medical management of hypertension.

## **Examiners**

### **Internal Examiner :**

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