SPECIMEN FORMAT FOR THESES OF MONTH

Faculty	:	HOME SCIENCE
Department	:	FOOD SCIENCE AND NUTRITION
Branch/ Area:	:	FOOD SCIENCE AND NUTRITION
Sub Subject Heading:	:	COMMUUNITY NUTRITION
Candidate's Name	:	G SUBA
Candidate's Address with email	:	4/82 VINAYAKAR KOIL STREET PANNIMADAI COIMBATORE
Title of the thesis	:	EFFECT OF NUTRITION INTRTVENTION ON SYMPTOMS OF PREMENSTRUAL SYNDROME AMONG WOMEN OF REPRODUCTIVE AGE WOMEN
(i) In Roman Script		-
(ii) In roman Script		-
Nomenclature of Degree:	:	DOCTORATE IN PHILOSOPHY
Month & Year of Enrolment:	:	OCTOBER 2012
Month & Year of Registration:	:	OCTOBER 2012
Month &Year of Submission:	:	DECEMBER 2017
Month &Year of Award	:	February 2019
Name of Supervisor	:	Dr. A. THIRUMANI DEVI
Designation of Supervisor	:	PROFESSOR AND HEAD
Centre/department/school in which research was conducted	:	AVINASHILINGAM INSTITUTE FOR HOME SCIENCE AND HIGHER EDUCATION FOR WOMEN, COIMBATORE – 641 043
University's Name & Address	:	

Abstract within 300 words:

Premenstrual symptoms even though mild to moderate in intensity might adversely affect and influence daily activity and work productivity (Freeman, 2003). PMS Symptoms are often under diagnosed as they are usually not reported by the patient correctly or a clinician often finds it difficult to ask the questions and it has difficulty in diagnosis. Age at menarche had positive correlation with the individual PMS symptoms of anger ($r=0.093$; $p<0.05$) and days of menstruation showed negative correlation with the individual PMS symptoms, irritability ($r=-0.258$; $p=0.00$) and depression ($r=-0.018$; $p<0.05$). In anthropometric measurements, Waist/Hip ratio alone had positive correlation with PMS symptoms like changes in sex desire ($r=0.322$; $p=0.00$); food craving ($r=0.101$; $p<0.05$) and abdominal pain ($r=0.109$; $p<0.05$). Though most of the symptoms had mild degree of positive correlation with Waist-Hip Ratio and other anthropometric parameters like BMI values, height and weight, and were statistically not significant. The participants readily accepted the health mix cookies due to its Calcium and other nutrient content and also its health benefits.

Formulated health mix cookies contributed 19.05 g of protein, 507 mg of Calcium and 604 mg of Magnesium, 18.9 mg of Iron and 233 micro grams of beta carotene per 100 g of the cookies used for dietary intervention for the period of 120 days. The individual PMS symptoms showed statistically significant difference in the experimental group before and after intervention as well as among the experimental and control group before and after intervention. It might be due to the micro nutrients present in the health mix cookies and also due to the impact of nutrition and health education.

Major Objectives:

- **i)** Find out the prevalence of PMS (PMS) among the women of reproductive age (20-45 years).
- **ii)** Study the influence of demographic, dietary, menstrual, nutritional and psychological variables on PMS
- **iii)** Formulation and evaluation of health mix rich in micro nutrients for dietary intervention

iv) Development and evaluation of educational modules for nutrition education and

v) Evaluate the effect of nutrition intervention strategies on symptoms PMS

vi) Hypothesis: -

Methodology :

Population - Reproductive age women of 20-45 years of age - 6061. Sample size- 600;

Research design- A quasi experimental two group pre test-post test Sampling technique- purposive sampling technique.

Tools used- A structured questionnaire Assessment of PMS symptom- Calendar of Premenstrual events (COPE).

Knowledge assessment- A structured questionnaire comprising of twenty knowledge questions related to various aspects of PMS was used to assess the knowledge of the subjects on PMS. Criteria for selection of subjects for Phase-III study (Nutrition and health education)

Findings:

PHASE - I

In the first step of the research, prevalence of the symptoms of PMS was recorded using a quick screening tool (ACOG Diagnostic criteria, 2000) among 600 reproductive age women in the age group of 20-45 years. Among the selected 600 participants, 59 participants were healthy and free from PMS and rest of them (N=541) had one or other symptoms of PMS.

Salient findings of the research are discussed in the following pages.

PHASE - II

Majority (65 per cent) of the participants had moderate level of state anxiety. The mean score of state anxiety was 2.88±0.64. The trait anxiety was also at moderate level among 71 per cent of the participants with mean 2.84±0.56. Self esteem level was moderate among 63 per cent of the participants with mean score of 3.1±0.64.

The knowledge of the participants on various aspects of PMS was noted to be poor among 78 per cent of the participants, 20 per centparticipants had average scores and only two per cent of participants had good score for their knowledge on PMS and the mean knowledge score was 2.07±1.48.

Intake of water was significantly associated with PMS symptom score ($p<0.05$) milk and milk products showed mild degree of negative correlation ($r = -0.063$) with PMS symptom score. Intake of coffee was positively correlated with ($r = +0.422$) PMS symptom score ($p=0.00$), PMS symptom score was significantly associated with weight ($p=0.00$) and height ($p<0.05$) whereas BMI values and waist hip ration did not show significant association with PMS symptom score. PMS symptoms score showed statistically significant association with State Anxiety, Trait A nxiety and Self Esteem at ($p=0.00$) level. Sensory evaluation showed that the Variation II was highly acceptable with an overall score of 32.58 out of 35.

Formulated health mix cookies contributed 19.05 g of protein, 507 mg of Calcium and 604 mg of Magnesium, 18.9 mg of Iron and 233 micro grams of beta carotene per 100 g of the cookies used for dietary intervention for the period of 120 days.

PHASE-III

Impact of dietary intervention on nutritional status and symptoms of PMS of the selected participants Anthropometric measurements, showed that there was a significant difference in the experimental group for BMI and waist-hip ratio ($p<0.01$) before and after intervention. Clinical examination showed that there was significant difference within the experimental group before and after intervention for general weakness, thin or lean stature, angular stomatitis, rough dry skin, bleeding and swollen gums, cheliosis ($p<0.01$) and head ache ($p<0.05$).

PHASE - IV

There was a negative correlation of number of PMS symptoms with haemoglobin levels ($p<0.01$) and PMS symptom score was negatively correlated with serum Calcium levels. ($p=0.00$).

Individual PMS symptoms like head ache, back pain, sensitivity, depression and loss of appetite were negatively correlated with serum Calcium level. Mood swing was negatively correlated with serum Magnesium level, palpitation was negatively correlated with serum ferritin level and palpitation, food craving and mood swing were negatively correlated with serum Iron. All showed statistical significance of $p<0.05$.

The frequency of individual symptoms like acne, abdominal bloating, breathlessness, dizziness, hot flashes, irritability, loss of appetite and wish to be alone ($p<0.01$) and fatigue, palpitation, breast swelling and mood swing ($p<0.05$) in the experimental group before and after intervention noted that there was statistical significant difference. There was no significant difference in the frequency of individual symptoms like headache, nausea, angry, anxiety, confusion, depression, food craving and forgetfulness in the experimental group before and after intervention.

The presence of individual PMS symptoms of final observations showed statistically significant difference between the experimental and control group for breathlessness, dizziness, fatigue, head ache, palpitation, anger, wish to be alone ($P<0.01$) and abdominal bloating, hot flashes, nausea, breast swelling, confusion and mood swing ($p<0.05$). The significance was noted at $p<0.05$ level.

The results of the study concluded that the nutrition intervention (supplementation and nutrition and health education) proved to be effective in improving the health status and reducing the frequency and severity of PMS symptoms of the participants in the experimental group when compared to control group. Thus, from the findings of the study, it is concluded that micro nutrients rich health mix is a welcoming appropriate and feasible attempt in alleviating the symptoms of PMS and in improving health status of the selected population.

Examiners

Internal Examiner : **Dr. S. KANCHANA**
PROFESSOR,
POST HARVEST TECHNOLOGY CENTRE
AEC & RI, TNAU, MADURAI

External Examiner :

Dr. V.K. GOPALAKRISHNAN
PROFESSOR IN BIOCHEMISTRY
DEPARTNEBT OF CHEMISTRY
AKSUM UNIVERSITY
ETHIOPIA