

Full Length Research Paper**A study to evaluate the Effectiveness of Dietary Supplementary on Pre-menstrual syndrome among nursing students.****Angel Rajakumari.G***Professor, Department of Obstetrics and Gynecology, Annai Dora College of Nursing, Aundipatty, Tamilnadu, India.***Abstract**

To evaluate the effectiveness of dietary supplementary on premenstrual syndrome among nursing students. The research design selected for the present study was pre test post test control group design. The study was conducted in Chandana School of nursing, suryapet, Telugana, India. The investigator selected the sample consisted of 50 nursing students with premenstrual syndrome in experimental group and 50 nursing students with premenstrual syndrome in control group. Who fulfilled the inclusion criteria were selected by using simple random sampling technique. A brief introduction about self and study was given to the nursing students and consent was obtained (both oral and written) and the confidentiality of the response was assured. Pre assessment was done in both experimental and control groups. Pre assessment revealed that the nursing students consumed only 200-300 mg of calcium in their daily diet. Hence had a requirement for calcium supplementation in their daily diet. The premenstrual syndrome was assessed by Modified Abraham's Premenstrual syndrome assessment scale. The girls were given 1300mg of calcium diet in 3 times per day for 30 days for experimental group. Dietary management of calcium was not given for the control group. Following the last day intervention post assessment was done to assess the level of PMS. Pamphlets were distributed for both the group. The analysis finding indicates clearly that 96% of the nursing students had moderate premenstrual syndrome in pretest with mean value of 49.6 and post test mean value was 18.03. As a result of the study, the girls under experimental group had no premenstrual syndrome and the study concludes that the calcium rich diet was effective to alleviate the premenstrual syndrome. The effectiveness of dietary supplementary showed high level of significant at $p < 0.001$ level. As a result of the study, the nursing students under experimental group had no premenstrual syndrome and the study concludes that the calcium rich diet was effective to alleviate the premenstrual syndrome.

Keywords: *Premenstrual Syndrome, Nursing Students, Dietary supplementary, Effectiveness***Introduction**

Premenstrual Syndrome (PMS) is a distinct and separate entity from dysmenorrhoea. The term PMS is used to describe an array of predictable physical and affective symptoms that occur cyclically during the luteal phase of the menstrual cycle and resolve quickly at or near the onset of menstruation. The etiology of PMS is unknown, and it is relatively a uncommon disorder during adolescence. PMS is characterized by symptoms of weight gain, headache, pelvic discomfort, fatigue, food cravings, irritability and anxiety. Although true PMS should begin 7 to 10 days before menses and cease with the onset of bleeding, it is characteristic for adolescent girls to experience symptoms at the time of menses.

Population studies have shown different prevalence of Premenstrual Syndrome, ranging from 5 to 35%, according to the criteria utilized and the place where the study was conducted. Higher prevalence are found when the diagnostic criteria are less rigid and include women who report four or more symptoms. In one population – based study carried out in Virginia (USA). Premenstrual Syndrome was observed in 8.3% of the women interviewed by telephone. However, there is concordance regarding the fact that approximately 5% of women present severe symptoms, and such symptoms are known as premenstrual dysphoric disorder (PMDD).

During the reproductive years, up to 80-90% of menstruating women will experience symptoms (breast pain, bloating, acne, constipation) that forewarn them of impending menstruation, so-called premenstrual molimina. Over 60% of women report swelling or bloating although objective documentation of weight gain is lacking in most of these women. Cyclic breast symptoms affect 70% of women with 22% reporting moderate to extreme discomfort. Available data suggest that as many as 30% - 40% of these women are sufficiently bothered by premenstrual syndrome to seek relief.

Calcium supplementation produces a significant reduction in Premenstrual Syndrome symptoms, according to results from an American trial which has just been published. Since women in many situations need to increase their intake of both iron and calcium (e.g. in pregnancy, lactation and adolescence), this interaction would obviously be of concern. Foods rich in Calcium are fish, whole grains, and green leafy vegetables. Vitamin E rich wheat germ will help to reduce the breast tenderness. The mineral calcium can reduce the menstrual pain and the premenstrual tension. It should be supplied through the food. Milk, curd, paneer, fenugreek leaves,

drumstick leaves, ragi are the rich sources of calcium. Evening prime rose oil is very effective in the treatment of pain and discomfort related to Premenstrual Syndrome.

MM Ward & TD Holmon et al (1999) had conducted a study evaluate the use of calcium supplementation in the treatment of premenstrual syndrome. The study was conducted among outpatient clinical at hospital. The sample was collected through medline. They were assigned to take 1200 – 1600 mg/d of calcium supplementation. The supplemental dose of calcium can be adjusted downward in the few patients who routinely consume large quantities of calcium in their diet. The results show that 50% of reduction of premenstrual syndrome by consuming increase intake of calcium.

Materials and Methods

A formal permission was obtained from the school of nursing principal at suryapet. 50 adolescent girls with premenstrual syndrome were selected for experimental group and 50 adolescent girls with premenstrual syndrome were selected for control group using randomized sampling techniques. The researcher selected the samples by lottery method in both experimental and control group who fulfilled the inclusion criteria. A brief introduction about self and study was given to the adolescent girls and consent was obtained (both oral and written) and the confidentiality of the response was assured. Pre assessment was done in both experimental and control groups. Reassessment revealed that the adolescent girls consumed only 200-300 mg of calcium in their daily diet. Hence had a requirement for calcium supplementation in their daily diet. The premenstrual syndrome was assessed by Modified Abraham's Premenstrual syndrome assessment scale. The girls were given 1300mg of calcium diet in 3 times per day for 30 days for experimental group. Dietary management of calcium was not given for the control group. Following the last day intervention post assessment was done to assess the level of post menstrual syndrome. Booklets were distributed for both the group.

Description of the tool

The tool was constructed after extensive review of literature and discussion with experts, to collect the data. The tool to measure the level of premenstrual syndrome was based on Modified Abraham's Premenstrual Syndrome Assessment Scale.

Section – I:

Demographic Variables

Age, age at menarche, type of family, number of sibling in the family, family income and body mass index.

Section – II:

This section consists of 25 symptoms, which are rated based on score. The maximum score is 75 and the minimum score is 25.

Scoring procedures

Section – I: Description of demographic variables.

No scoring was allotted for the demographic data. The data of this section was used for descriptive analysis.

Section – II:

In this section, the scoring is based on 4 points scale to assess the data on level of premenstrual syndrome. The maximum score is 75 and minimum score is 25. The level of premenstrual syndrome was classified as follows.

Scores:

| | | |
|---------|---|----------|
| 1 – 25 | - | Mild |
| 26 – 50 | - | Moderate |
| 51 – 75 | - | Severe |

Results

Table 1: Frequency and percentage distribution of level of premenstrual syndrome among nursing students before dietary management of calcium in the experimental and control group

| Pretest | Mild (1 – 25) | | Moderate(26 – 50) | | Severe (51 – 75) | |
|--------------|---------------|---|-------------------|------|------------------|------|
| | No. | % | No. | % | No. | % |
| Experimental | 0 | 0 | 45 | 90.0 | 5 | 10.0 |
| Control | 0 | 0 | 46 | 92 | 4 | 8 |

N = 50

Table 1 shows the frequency and percentage distribution of level of premenstrual syndrome among nursing students before dietary management of calcium in the experimental and control group. In experimental group, 45(90%) had moderate premenstrual syndrome and 5(10%) had severe premenstrual syndrome and in control group 46(92%) had moderate premenstrual syndrome and 4(8%) had severe menstrual syndrome.

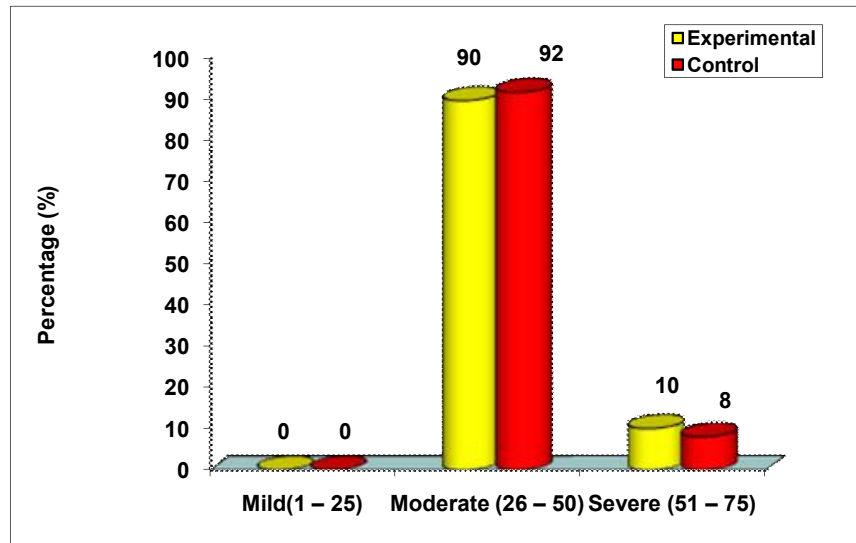


Fig. 1. Level of premenstrual syndrome

Table 2: Frequency and percentage distribution of level of premenstrual syndrome among nursing students after dietary management of calcium in the experimental group and without dietary management of calcium in the control group

| Post test | Mild (1 – 25) | | Moderate (26 – 50) | | Severe (51 – 75) | |
|--------------|---------------|----|--------------------|----|------------------|----|
| | No. | % | No. | % | No. | % |
| Experimental | 48 | 96 | 2 | 4 | 0 | 0 |
| Control | 0 | 0 | 45 | 90 | 5 | 10 |

N = 50

Table 2 shows the frequency and percentage distribution of level of premenstrual syndrome among adolescent girls after dietary management of calcium in the experimental group and without dietary management of calcium in the control group. In experimental group, 248(96%) had mild premenstrual syndrome and 2(4%) had moderate premenstrual syndrome and in control group 45(90%) had moderate premenstrual syndrome and 5(13.33%) had severe menstrual syndrome.

Table 3: Comparison of pre and post level of premenstrual syndrome in the experimental group

| Test | Mean | Standard Deviation | 't' value |
|-----------|-------|--------------------|-----------|
| Pretest | 49.6 | 16.7 | 12.58*** |
| Post test | 18.03 | 6.0 | (S) |

N = 50

***p<0.001, S – Significant

Table 3 shows the comparison of pre and post level of premenstrual syndrome in the experimental group. The table further reveals that in the pretest, the mean score was 49.6 with S.D 16.7 and in the post test the mean score was 18.03 with Standard deviation 6.0. The calculated 't' value was 12.58 which was found to be highly significant at p<0.001 level. This shows that there is a significant difference in the level of premenstrual syndrome before and after intervention.

Table 4: Comparison of pre and post level of premenstrual syndrome in the control group

| Test | Mean | Standard Deviation | 't' value |
|-----------|-------|--------------------|-----------|
| Pretest | 37.27 | 7.24 | 0.8083 |
| Post test | 36.11 | 7.11 | (N.S) |

N = 50

N.S – Not Significant

Table 4 shows the comparison of pre and post level of premenstrual syndrome in the control group. The table further reveals that in the pretest, the mean score was 37.27 with S.D 7.24 and in the post test the mean score was 36.11 with S.D 7.11. The calculated 't'

value was 0.8083 which was not found to be statistically significant. This shows that there is no significant difference in the level of premenstrual syndrome between pre and post test in the control group.

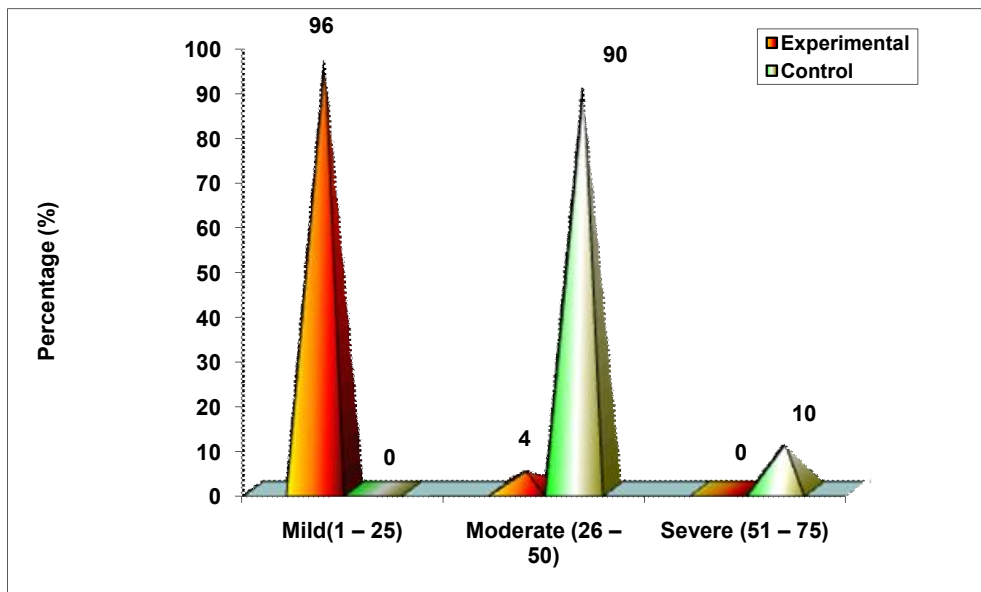


Fig. 2. Level of premenstrual syndrome

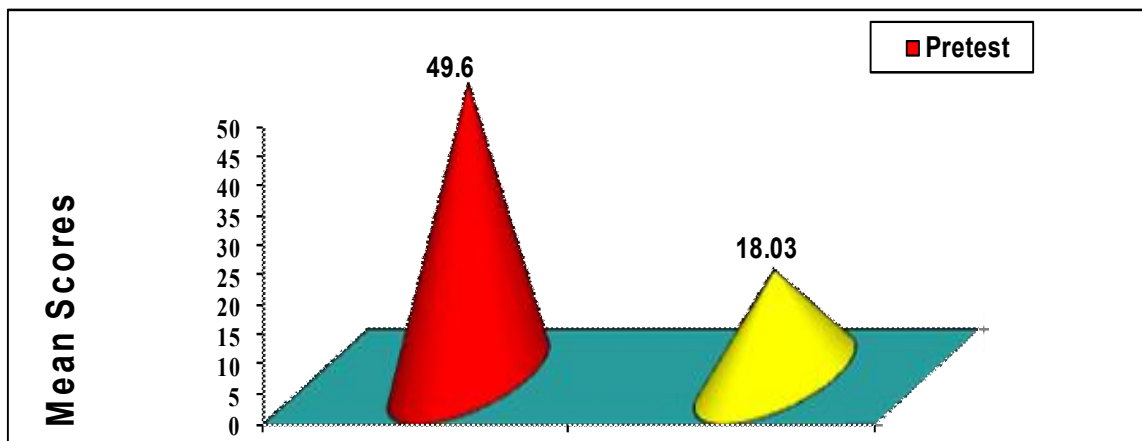


Fig. 3 Level of premenstrual syndrome

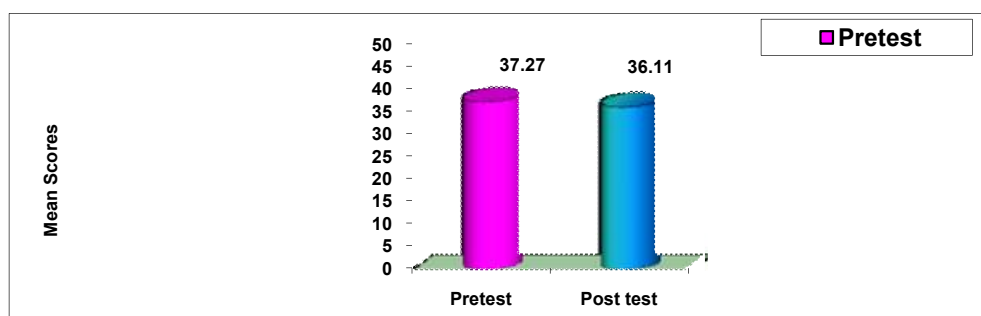


Fig. 4. Level of premenstrual syndrome

Table 5: Comparison of post test level of premenstrual syndrome between the experimental and control group

N = 50

| Test | Mean | Standard Deviation | 't' value |
|--------------|-------|--------------------|-------------------|
| Experimental | 18.03 | 6.0 | 13.7418 (S)*** |
| Control | 36.11 | 7.11 | |

*** $p < 0.001$, S – Significant

The table 5 shows the comparison of post test level of premenstrual syndrome between the experimental and control group. The table shows that in the experimental group, the mean score was 18.3 with S.D 6.0 and in the control group the mean score was 36.11 with S.D 7.11 and the calculated 't' value was 13.37418 which was found to be statistically highly significant at $p < 0.001$ level. This shows there is a significant difference between the experimental group and control group in the post test.

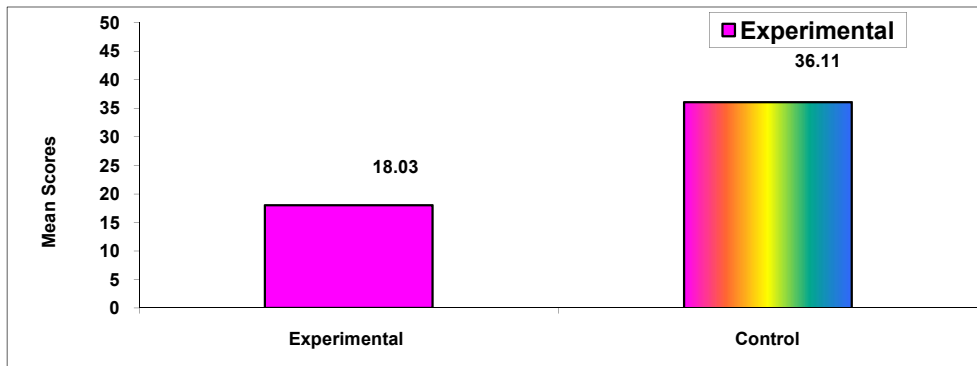


Fig 5. Post test level of premenstrual syndrome

Discussion

The analysis reveals that in experimental group, it was found that the mean value 18.03 and standard deviation 6.0 and in control group the mean value was 36.11, standard deviation 7.11. The mean difference was 20.69 and 't' value was 13.7418 at $p < 0.001$ indicating that there was a significant difference between experimental and control group. The pre and post test level of premenstrual syndrome scores were compared and found that 96% of the nursing students had moderate premenstrual syndrome in pretest with mean value of 49.6 and post test mean value was 18.03. As a result of the study, the nursing under experimental group had no premenstrual syndrome and the study concludes that the calcium rich diet was effective to alleviate the premenstrual syndrome.

Conclusion

PMS is an intermittent problem that cannot be resolved until menopause. However, appropriate management can help to alleviate the disturbing symptoms of PMS. Findings, of this study, could be used to guide health care providers, who work with those experiencing PMS, regarding what symptoms tend to occur most often, which symptoms tend to have the highest intensity and what strategies to use to effectively deal with the most disturbing symptoms. It was concluded from the findings of the study that majority of students were having lower abdomen pain, backache, irritability, fluctuation of mood. Minority of students were having somatic symptoms like feeling of suffocation, chest pain, feeling of tingling sensation and ringing in ear. In order to overcome it majority of students adopts healthy coping strategies for these problem. They take hot drinks to feel better. They do not express their anger on others.

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