Effectiveness of Ginger Candy on Dysmenorrhea among Adolescent Girls of a Nursing College at Vadodara

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ABSTRACT

Background of Study: Adolescence period for a girl is a time of physical and mental preparation for a safe mother. Dysmenorrhea is a painful menstrual cycle. It is characterized as painful pelvic pain that begins shortly before or early in the menstruation and lasts 1 to 3 days. Anxiety and fatigue were ongoing problems for girls with dysmenorrhea. There are a variety of options for treating dysmenorrhea that include a medical and non-medical approach. Ginger is a drug that is found to have a relaxation effect on muscle disorders which is why it can play a positive role in dysmenorrhea.

Materials and Methods: The present study aims to assess the effect of Ginger Candy on dysmenorrhea among adolescent girls at College of Nursing, Parul University, Vadodara. Quasi experimental study design was adopted for the study. A total of 60 samples (30 in experimental group and 30 in control group) were selected using Non probability purposive sampling. The tool consists of socio-demographic variable, menstrual variables and Numerical pain rating scale to assess dysmenorrhea pain. Study participants were explained about the risks and benefits of the study and assured that anonymity and confidentiality will be maintained. Informed consent was obtained from all the participants. Pre-test level of dysmenorrhea was assessed, Ginger candy was
administered to participants in experimental group (morning and evening for first two days of menstruation). Post-test was conducted to assess dysmenorrhea pain using numeric pain rating scale. The data was arranged and analyzed using descriptive and inferential statistics.

**Results:** Present study results showed that in experimental group pre-test majority 21(70%) of adolescent girls had severe dysmenorrhea whereas in post-test majority 18(60%) had mild dysmenorrhea. In control group pre-test majority 19(63.3%) had severe dysmenorrhea while in post-test majority 23(76.7%) had moderate dysmenorrhea. Findings revealed that in experimental group post-test mean pain score was 3.37±1.189 and in control group post-test mean score was 5.07±1.202 with mean difference of 1.70 with obtained t value (t=5.509, df=58, p=0.001) was significant at p<0.05 level. There was no significant association found between dysmenorrhea and selected demographic variables of adolescent girls.

**Keywords:** Ginger candy; dysmenorrheoa; adolescent girls.

**1. INTRODUCTION**

Yesterday’s girl is today’s adolescent and tomorrow’s mother. The word adolescent is derived from the Latin word “Adolescere” meaning “to grow up”. Approximately one fifth of the world’s population is lies between the age group of 10-19 years as they are passing through a transitional period from childhood to adult hood. Today 1.2 billion adolescents stand at the cross roads between childhood to adult world. Around 243 million of them live in India. Among 71 million were in Tamil Nadu. They are undergoing a lot of physical as well as psychological stress due to changes taking place in the body [1].

Dysmenorrhea is a medical term for painful menstrual periods caused by uterine contractions. Dysmenorrhea is common among college students that affect their daily activities that lead to a imbalance of their social, educational and recreational activities. People have used ginger for many years for both cooking and medicinal purposes. Today, it is a traditional remedy for various ailments, including menstrual cramps. Because it has pain-reliving and anti-inflammatory properties, it can help with both pain and constipation [2].

**1.1 Objectives of the Study**

1. To assess the degree of dysmenorrhea among experimental group and control group.
2. To assess the effectiveness of ginger candy on dysmenorrhea among adolescent girls.
3. To find out the association between the degree of dysmenorrhea among adolescent girls and selected demographic variable.

**1.2 Hypotheses**

- **H1-** There will be significant difference in the level of dysmenorrhea among adolescent girls between experimental and control group.
- **H2 –** There will be significant association between the level of dysmenorrhea among adolescent girls and selected demographic variable in intervention and control group.

**2. METHODOLOGY**

**Research Approach:** Quantitative evaluative approach.

**Research Design:** Quasi experimental, Pre- test post-test control group design.

**Variables under Study:**

- **Independent Variable:** Ginger Candy, this will be administering twice a day [Morning & Evening] for two days.
- **Dependent Variable:** Dysmenorrhea.
- **Demographic Variable:** (1) Socio-demographic variables –Age, Religion, Nationality, Diet (2) Menstrual variable - Age at menarche, Duration of menstrual cycle, Regularity, flow of menstrual period, family history of dysmenorrhea, Working ability, Location of cramp, Intensity of pain and days of pain.

**Research Setting:** The setting selected for this study was Parul nursing college.

**Population:** Girls of selected nursing college.

**Sample Size:** Total 60 samples among 30 will be in experimental group and 30 will be in control group.
Sampling Technique: Non probability purposive sampling technique.

Sampling Criteria:

Inclusion Criteria: Girls who are (i) having dysmenorrhea (ii) in the age group between 17-23 years (iii) willing to participate in the study.

Exclusion Criteria: Girls who are (i) ginger allergy (ii) diagnosed as diabetic (iii) taking other therapy of dysmenorrhea.

Data collection Technique and Tools: Questionnaire Technique.

Data Collection Tools:

Section 1: Part A: Socio demographic variables - Age, Religion, Nationality, Diet.

Part B: Menstrual variables - Age at menarche, length of menstrual cycle, Regularity flow of menstrual period, family history of dysmenorrheal, working ability, Location of cramp, Intensity of pain and days of pain.

Section 2: Standardise numerical Pain rating scale.

3. RESULTS

Table 1 depicts the frequency and percentage distribution of the demographic variables of adolescent girls. As per chi square analysis it shows that there is no significant difference between experimental and control group relate to their demographic characteristics.

Table 2 depicts the frequency and percentage distribution of the menstrual variables of adolescent girls. As per chi square analysis it shows that there is no significant difference between experimental and control group relate to their menstrual characteristics.

Table 3 depicts the distribution of pre-test and post-test level of dysmenorrhea among adolescent girls in experimental group and control group. In experimental group pre-test majority 21(70%) of adolescent girls had severe dysmenorrhea and 9(30%) had moderate dysmenorrhea whereas in post-test majority 18(60%) had mild dysmenorrhea and 12(40%) had moderate dysmenorrhea. In control group pre-test majority 19(63.3%) of adolescent girls had severe dysmenorrhea and 11(36.7%) had moderate dysmenorrhea whereas in post-test, majority (76.7%) had moderate dysmenorrhea, 4(13.3%) had severe dysmenorrhea and 3(10%) had mild dysmenorrhea.

Table 4 illustrates the effect of Ginger candy on dysmenorrhea among adolescent girls in experimental group in experimental group. The mean pre-test pain score was 6.07±1.172 and mean post-test pain score was 3.37±1.189 with mean difference of 2.70. The effect of Ginger candy on dysmenorrhea among adolescent girls in experimental group was tested by using paired t test with obtained t value (t=8.289, df=29, p=0.001) was statistically highly significant at p<0.05 level of significance. Hence the findings revealed that ginger candy was effective on reducing dysmenorrhea among adolescent girls in experimental group.

Table 1. Frequency and percentage distribution of the demographic variables of adolescent girls in experimental and control group (n=60)

| Demographic variables | Experimental group (f, %) | Control Group (f, %) | Chi value | df | p value |
|-----------------------|--------------------------|----------------------|-----------|----|---------|
| Age                   |                          |                      |           |    |         |
| 18-20 years           | 23 (76.7)                | 29 (96.7)            | 0.833     | 1  | 0.361<sup>NS</sup> |
| 21-23 years           | 7 (23.3)                 | 1 (3.3)              |           |    |         |
| 24-26 years           | 0 (0)                    | 0 (0)                |           |    |         |
| Nationality           |                          |                      |           |    |         |
| Indian                | 25 (83.3)                | 27 (90)              | 0.577     | 1  | 0.447<sup>NS</sup> |
| Outside of India      | 5 (16.7)                 | 3 (10)               |           |    |         |
| Religion              |                          |                      |           |    |         |
| Hindu                 | 12 (40)                  | 11 (36.7)            | 1.012     | 2  | 0.989<sup>NS</sup> |
| Christian             | 5 (16.7)                 | 5 (16.7)             |           |    |         |
| Muslim                | 6 (20)                   | 7 (23.3)             |           |    |         |
| Other                 | 7 (23.3)                 | 7 (23.3)             |           |    |         |
| Food habits           |                          |                      |           |    |         |
| Vegetarian            | 12 (40)                  | 8 (26.7)             | 2.586     | 3  | 0.459<sup>NS</sup> |
| Vegan                 | 5 (16.7)                 | 3 (10)               |           |    |         |
| Non vegetarian        | 2 (6.7)                  | 2 (6.7)              |           |    |         |
| Mixed                 | 11 (36.6)                | 17 (56.6)            |           |    |         |
Table 2. Frequency and percentage distribution of the menstrual variables of adolescent girls in experimental and control group (n=60)

| Demographic variables                      | Experimental group | Control Group | Chi value | df | p value |
|--------------------------------------------|--------------------|---------------|-----------|----|---------|
| Age of menarche in year                    |                    |               |           |    |         |
| Below 12 years                             | 3                  | 9             | 3.756     | 2  | 0.152   |
| 12-13 years                                | 17                 | 13            | 43.3      |    |         |
| 14 years or above                          | 10                 | 8             | 26.7      |    |         |
| Regularity of menstrual period             |                    |               |           |    |         |
| Regular                                    | 22                 | 19            | 63.3      |    |         |
| Irregular                                  | 8                  | 11            | 36.7      |    |         |
| Flow at menstrual period                   |                    |               |           |    |         |
| Mild                                       | 7                  | 8             | 26.7      |    |         |
| Moderate                                   | 20                 | 19            | 63.3      |    |         |
| Heavy                                      | 3                  | 3             | 10        |    |         |
| Heavy with clots                           | 0                  | 0             | 0         |    |         |
| Taking medication for dysmenorrhea         |                    |               |           |    |         |
| Yes                                        | 2                  | 0             | 0         |    |         |
| No                                         | 28                 | 30            | 100       |    |         |
| Family history of dysmenorrhea             |                    |               |           |    |         |
| Yes                                        | 5                  | 10            | 33.3      |    |         |
| No                                         | 25                 | 20            | 66.7      |    |         |
| Rate your working ability during menstrual period |        |               |           |    |         |
| None                                       | 0                  | 0             | 0         |    |         |
| Almost never                               | 1                  | 2             | 6.7       |    |         |
| Almost always                              | 24                 | 23            | 76.6      |    |         |
| Always                                     | 5                  | 5             | 16.7      |    |         |
| Location of pain                           |                    |               |           |    |         |
| None                                       | 0                  | 0             | 0         |    |         |
| Lower abdomen                              | 18                 | 18            | 60        |    |         |
| Back pain                                  | 12                 | 9             | 30        |    |         |
| Thighs                                     | 0                  | 0             | 3         |    |         |
| Intensity of pain                          |                    |               |           |    |         |
| Does not hurt                              | 3                  | 4             | 13.3      |    |         |
| Hurts a little bit                         | 25                 | 24            | 80        |    |         |
| Hurts little more                          | 2                  | 2             | 6.7       |    |         |
| Hurts a whole lot                          | 0                  | 0             | 0         |    |         |
| Days of pain                               |                    |               |           |    |         |
| 1-2                                        | 13                 | 8             | 26.7      |    |         |
| 3-4                                        | 17                 | 18            | 60        |    |         |
| ≥ 5                                        | 0                  | 4             | 13.3      |    |         |

Table 3. Distribution of pre-test and post-test level of dysmenorrhea among adolescent girls in experimental group and control group (n=60)

| Dysmenorrhea   | Experimental Group | Control Group |       |       |       |       |
|----------------|--------------------|---------------|-------|-------|-------|-------|
|                | Pre-test           | Post-test     | Pre-test | Post-test |       |       |
|               | f                 | %             | f      | %     | f     | %     |
| Mild           | 0                 | 0             | 18     | 60    | 0     | 3     |
| Moderate       | 21                | 70            | 12     | 40    | 19    | 63.3  |
| Severe         | 9                 | 30            | 0      | 0     | 11    | 36.7  |

Table 4. To evaluate the Effect of Ginger candy on dysmenorrhea among adolescent girls in experimental group (n=60)

| Experimental Group | Mean  | SD    | Mean D | t value | df   | p value |
|--------------------|-------|-------|--------|---------|------|---------|
| Pre-test           | 6.07  | 1.172 | 2.70   | 8.289   | 29   | 0.001*  |
| Post-test          | 3.37  | 1.189 |        |         |      |         |

*P<0.05 level of significance
Table 5. Comparison of pre-test and post-test level of dysmenorrhea among adolescent girls in experimental group and control group (n=60)

| Comparison | Experimental group Mean±SD | Control group Mean±SD | Mean D | t value | df | p value |
|------------|-----------------------------|-----------------------|--------|---------|----|---------|
| Pre-test   | 6.07±1.172                  | 5.83±1.289            | 0.23   | 0.734   | 58 | 0.466 NS|
| Post-test  | 3.37±1.189                  | 5.07±1.202            | 1.70   | 5.509   | 58 | 0.001*  |

*P<0.05 level of significance

Table 5 depicts the comparison of pre-test and post-test level of dysmenorrhea among adolescent girls in experimental group and control group. Results showed that in experimental group pre-test mean pain score was 6.07±1.172 and in control group pre-test mean score was 5.83±1.289 with mean difference of 0.23 with obtained t value (t=0.734, df=58, p=0.466) was statistically non-significant. Findings showed that in experimental group post-test mean pain score was 3.37±1.189 and in control group post-test mean score was 5.07±1.202 with mean difference of 1.70 with obtained t value (t=5.509, df=58, p=0.001) was statistically significant at p<0.05 level. Hence the findings revealed that Ginger candy was effective on reducing dysmenorrhea among adolescent girls in experimental group as compared to control group. Hence as per analysis it shows that hypothesis H1 is proved significant.

Table 6. Association between pre-test level of dysmenorrhea of adolescent girls with selected demographic variable in experimental group (n=30)

| Demographic variables | Experimental group Pre-test | Chi value | df | p value |
|-----------------------|----------------------------|-----------|----|---------|
|                       | Moderate                   | Severe    |    |         |
| Age                   | 18-20 years                | 14        | 9  | 3.913   | 0.058 NS|
|                       | 21-23 years                | 7         | 0  |         |         |
|                       | 24-26 years                | --        | -- |         |         |
| Nationality           | Indian                     | 17        | 8  | 0.286   | 0.593 NS|
|                       | Outside of India           | 4         | 1  |         |         |
| Religion              | Hindu                      | 10        | 2  | 1.404   | 0.493 NS|
|                       | Christian                  | 3         | 2  |         |         |
|                       | Muslim                     | 3         | 3  |         |         |
|                       | Other                      | 5         | 2  |         |         |
| Food habits           | Vegetarian                 | 8         | 4  | 0.722   | 0.868 NS|
|                       | Vegan                      | 4         | 1  |         |         |
|                       | Non vegetarian             | 1         | 1  |         |         |
|                       | Mixed                      | 8         | 3  |         |         |

Table 6 depicts the association between pre-test dysmenorrhea of adolescent girls with selected demographic variable in experimental group was tested by using chi-square test. The results showed that demographic variables such as age, nationality, religion and food habits of adolescent girls were statistically non-significant with pre-test dysmenorrhea.
Table 7. Association between pre-test level of dysmenorrhea of adolescent girls with selected menstrual variable in experimental group (n=30)

| Demographic variables | Pre-test | Chi value | df | p value |
|-----------------------|----------|-----------|----|---------|
|                        | Moderate | Severe    |    |         |
| Age of menarche in year | Below 12 years | 2 | 1 | 0.719 | 2 | 0.698<sup>NS</sup> |
|                        | 12-13 years | 11 | 6 |  | |
|                        | 14 years or above | 8 | 2 |  | |
| Regularity of menstrual period | Regular | 15 | 7 | 0.130 | 1 | 0.719<sup>NS</sup> |
|                        | Irregular | 6 | 2 |  | |
| Flow at menstrual period | Mild | 5 | 2 | 1.023 | 2 | 0.989<sup>NS</sup> |
|                        | Moderate | 14 | 6 |  | |
|                        | Heavy | 2 | 1 |  | |
|                        | Heavy with clots | -- | -- |  |  |
| Taking medication for dysmenorrhea | Yes | 2 | 0 | 0.918 | 1 | 0.338<sup>NS</sup> |
|                        | No | 19 | 9 |  | |
| Family history of dysmenorrhea | Yes | 4 | 2 | 1.040 | 1 | 0.841<sup>NS</sup> |
|                        | No | 17 | 7 |  | |
| Rate your working ability during menstrual period. | Almost never | 1 | 0 | 0.675 | 2 | 0.714<sup>NS</sup> |
|                        | Almost always | 17 | 7 |  | |
|                        | Always | 3 | 2 |  | |
| Location of pain | Lower abdomen | 13 | 5 | 0.106 | 1 | 0.745<sup>NS</sup> |
|                        | Back pain | 8 | 4 |  | |
|                        | Thighs | -- | -- |  | |
| Intensity of pain | Does not hurt | 1 | 2 | 2.825 | 2 | 0.243<sup>NS</sup> |
|                        | Hurts a little bit | 18 | 7 |  | |
|                        | Hurts little more | 2 | 0 |  | |
|                        | Hurts a whole lot | -- | -- |  |  |
| Days of pain | 1-2 | 11 | 2 | 2.334 | 1 | 0.127<sup>NS</sup> |
|                        | 3-4 | 10 | 7 |  | |
|                        | ≥ 5 | -- | -- |  |  |

Table 8. Association between pre-test level of dysmenorrhea of adolescent girls with selected demographic variable in control group (n=30)

| Demographic variables | Pre-test | Chi value | df | p value |
|-----------------------|----------|-----------|----|---------|
|                        | Moderate | Severe    |    |         |
| Age | 18-20 years | 18 | 11 | 0.599 | 1 | 0.439<sup>NS</sup> |
| | 21-23 years | 1 | 0 |  | |
| | 24-26 years | -- | -- |  | |
| Nationality | Indian | 17 | 10 | 1.016 | 1 | 0.900<sup>NS</sup> |
| | Outside of India | 2 | 1 |  | |
| Religion | Hindu | 5 | 6 | 4.722 | 3 | 0.193<sup>NS</sup> |
| | Christian | 5 | 0 |  | |
| | Muslim | 4 | 3 |  | |
| | Other | 5 | 2 |  | |
| Food habits | Vegetarian | 5 | 3 | 1.324 | 3 | 0.724<sup>NS</sup> |
| | Vegan | 2 | 1 |  | |
| | Non vegetarian | 2 | 0 |  | |
| | Mixed | 10 | 7 |  |  |

NS - Not significant

Dysmenorrhea. The other menstrual variables such as age at menarche, regularity of menstrual period, flow at menstrual period, taking medication for dysmenorrhea, family history of dysmenorrhea, rate your working ability during menstrual period, location of pain, and intensity of pain were not significant at p<0.05 level with pre-test level of dysmenorrhea of adolescent girls. Hence as per analysis it shows that hypothesis H<sub>1</sub> is accepted.
Table 9. Association between pre-test level of dysmenorrhea of adolescent girls with selected menstrual variable in control group (n=30)

| Demographic variables                        | Pre-test |               | Chi value | df | p value |
|-----------------------------------------------|----------|---------------|-----------|----|---------|
|                                               | Moderate | Severe        |           |    |         |
| Age of menarche in year                       | Below 12 years | 6  | 3 | 0.850 | 2  | 0.654es |
|                                               | 12-13 years | 9  | 4 |          |    |         |
|                                               | 14 years or above | 4 | 4 |          |    |         |
| Regularity of menstrual period                | Regular  | 11  | 8 | 0.660  | 1  | 0.417es |
|                                               | Irregular| 8   | 3 |          |    |         |
| Flow at menstrual period                      | Mild     | 6   | 2 | 0.725  | 2  | 0.696es |
|                                               | Moderate | 11  | 8 |          |    |         |
|                                               | Heavy    | 2   | 1 |          |    |         |
|                                               | Heavy with clots | -- | -- |          |    |         |
| Taking medication for dysmenorrhea            | Yes      | --  | -- | NA     | NA | NA      |
|                                               | No       | 19  | 11|          |    |         |
| Family history of dysmenorrhea                | Yes      | 6   | 4 | 1.072  | 1  | 0.789es |
|                                               | No       | 13  | 7 |          |    |         |
| Rate your working ability during menstrual period. | Almost never | 1 | 1 | 0.212  | 2  | 0.899es |
|                                               | Almost always | 15 | 8 |          |    |         |
|                                               | Always   | 3   | 2 |          |    |         |
| Location of pain                              | Lower abdomen | 11 | 7 | 2.010  | 2  | 0.366es |
|                                               | Back pain | 5   | 4 |          |    |         |
|                                               | Thighs   | 3   | 0 |          |    |         |
| Intensity of pain                             | Does not hurt | 3 | 1 | 0.395  | 2  | 0.821es |
|                                               | Hurts a little bit | 15 | 9 |          |    |         |
|                                               | Hurts little more | 1 | 1 |          |    |         |
|                                               | Hurts a whole lot | -- | -- |          |    |         |
| Days of pain                                  | 1-2      | 1   | 7 | 12.83  | 2  | 0.002*  |
|                                               | 3-4      | 14  | 4 |          |    |         |
|                                               | ≥ 5      | 4   | 0 |          |    |         |

*P<0.05 level of significance

4. DISCUSSION

4.1 The First Objective of the Study was to Assess the Level of Dysmenorrhea in Experimental Group and Control Group

Present study results showed that the pre-test level of dysmenorrhoea in experimental group majority 21(70%) of adolescent girls had severe dysmenorrhea and 9(30%) had moderate dysmenorrhea whereas in post-test majority 18(60%) had mild dysmenorrhea and 12(40%) had moderate dysmenorrhea. In control group, majority 19(63.3%) of adolescent girls had severe dysmenorrhea and 11(36.7%) had moderate dysmenorrhea whereas in post-test majority 23(76.7%) had moderate dysmenorrhea, 4(13.3%) had severe dysmenorrhea and 3(10%) had mild dysmenorrhea.

Similar study was conducted by Kavuluru P to assess the effectiveness of ginger preparation on dysmenorrhea among adolescent girls. Results revealed that in pre-test, majority (46.6%) of adolescent girls had moderate dysmenorrhea, 28.3% had severe dysmenorrhea, followed by 25% had mild dysmenorrhea whereas in post-test 38.3% of the adolescent girls were suffering with mild dysmenorrhea, 36.6% of adolescent girls were suffering with moderate dysmenorrhea and 20% of adolescent girls had no pain [3].

4.2 The Second Objective of the Study was to Evaluate Effect of Ginger Candy on Experimental Group

Results revealed that in experimental group mean pre-test pain score was 6.07±1.172 and mean post-test pain score was 3.37±1.189 with mean difference of 2.70. The effect of Ginger candy on dysmenorrhea among adolescent girls in experimental group was tested by using paired t test with obtained t value (t=8.289, df=29, p=0.001) was statistically highly significant at
p<0.05 level of significance. Findings revealed that Ginger candy was effective on reducing dysmenorrhea among adolescent girls in experimental group.

The similar study was supported by Rohit D, Tiwari A (2018) conducted a quasi-experimental study to assess the effectiveness of ginger tea on dysmenorrhea among adolescent girls. The study finding revealed that pre-test mean score in experimental group was 5.40±2.074 and post-test mean score was 1.40±2.074 with mean difference of 4.0 with t=9.45 statistically significant at p<0.05 level. Findings in control group showed that pre-test mean value was 5.40±2.074 and post-test mean value was 3.60±1.342. The mean value of post experiment significantly higher than mean value of pre-experiment level of dysmenorrhea on 1st day and dysmenorrhea on 3rd day at 95% confidence interval which indicated that ginger tea has statistical significance effect over dysmenorrhea in adolescent girls [4].

4.3 The Third Objective of the Study was to find Out Association between Selected Demographic Variable with Pre-Test in Both Groups

The results showed that intensity of pain was statistically significant association with pre-test level of dysmenorrhea at p<0.05 level. The other demographic variables such as age, nationality, religion and food habits of adolescent girls were statistically non-significant with pre-test dysmenorrhea. Menstrual variables such as age at menarche, regularity of menstrual flow, flow at menstrual period, taking medication for dysmenorrhea, family history of dysmenorrhea, working ability during menstrual period and location of pain were statistically not significant with pre-test level of dysmenorrhea in both groups.

Rad Adib H et al. conducted a study to assess the effect of ginger on dysmenorrhea among girl students aged 18-26 years. Findings showed that age of girls was significant with dysmenorrhea. Other variables such as BMI, Residential area, menstrual status, age at menarche, duration of menstruation was non-significant with dysmenorrhea of girl students [5].

5. CONCLUSION

Dysmenorrhea is a common problem experienced by adolescent girls and in women of reproductive age. The present study results showed that ginger candy was effective in reducing dysmenorrhea pain in experimental group as compared to control group. The study findings concluded that Ginger is one of the most important and most powerful god gifted natural home remedy for dysmenorrhea without of undue side effects. This will help to improve the productivity and quality of life in adolescents and women of reproductive age to cope with discomforts due to dysmenorrhea.

ETHICAL CLEARANCE AND CONSENT

Ethical clearance was obtained from the ethical committee of Parul University Approval Number: PUIECHR/PIMSR/00/081734/3508. Individual consent was taken from the sample before data collection. Participants were also assured for the confidentiality of the information provided. Prior to data collection, formal permission was obtained from the Principal of selected Nursing College, Vadodara. Participants were informed about the nature and purpose of the study and informed consent was obtained.

ACKNOWLEDGEMENT

In this regard, I want to express my deep thanks to all the adolescent girls for their participation.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. International Association for the Study of Pain Task Force on Taxonomy. Classification of Chronic Pain. 2nd; 2011. Available:http://www.iasp-pain.org/
2. Ju H., Jones M., Mishra G. The prevalence and risk factors of dysmenorrhea. Epidemiologic Reviews. 2014;36(1):104–113. DOI: 10.1093/epirev/mxt009 [PubMed] [CrossRef] [Google Scholar]
3. Kavuluru P. Effectiveness of ginger preparation on dysmenorrhea among adolescent girls. International Journal of Applied Research. 2018;3(3):22-25.
4. Rohit D, Tiwari A. Effectiveness of ginger tea on dysmenorrhea among adolescent girls. International Journal
5. Rad Adib H, et al. Effect of Ginger and Novafen on menstrual pain: A cross-over trial on dysmenorrhea, Taiwanese Journal of Obstetrics & Gynecology. 2018;57:806-809.