



EFFECTIVENESS OF GINGER TEA ON PRIMARY DYSMENORRHEA AMONG EARLY ADOLESCENT GIRLS

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ABSTRACT

Background: Menarche is the first menstruation period in female adolescent which signals the beginning of reproductive abilities. The pattern of changes during menarche and dysmenorrhea during menstruation can affect adolescent's health. Primary and secondary dysmenorrhea are the two types. Analgesics are most often used by early adolescent girls to relieve symptoms of dysmenorrhea. Home and alternative therapies are available to treat primary dysmenorrhea with no side effects if used properly. Ginger tea is one of the best home remedies containing gingerol which has ameliorative effect and it could be related to the inhibition of prostaglandin and leukotriene biosynthesis. **Objective:** To determine the effectiveness of ginger tea administration on dysmenorrheal pain among early adolescent girls. **Material and methods:** Quantitative research approach with time series design was used in the study. Purposive sampling technique was used to collect data from 60 early adolescent girls of Govt. Intercollege, Mehuwala, Dehradun. Ginger tea was administered by using 3gm of ginger slice boiled in 100ml of water till it remained half, i.e., 50ml. Data was collected by using Self structured Socio Demographic Tool and Numerical Pain Rating Scale (NPRS). NPRS was administered two times a day up to three days, before administering ginger tea and 30 minutes after administration. **Results:** Results showed a statistically significant reduction in level of dysmenorrhea after ginger tea administration with $p=0.001$. A mean difference of 1.83 ± 0.37 at day 1 (Wilcoxon T test- 7.47), 1.73 ± 0.44 at day 2 (Wilcoxon T test- 7.62) and 1.82 ± 0.53 at day 3 (Wilcoxon T test- 5.11) was found significant. **Conclusion:** The findings revealed that ginger tea is an effective method in reducing primary dysmenorrhea among adolescent girls.

KEYWORDS : Effectiveness, Ginger tea, Primary dysmenorrhea, Early adolescent girl

INTRODUCTION

Early adolescent is a phase of growth and development between childhood and adulthood. According to UNICEF, there are 1.3 billion adolescents in the world today, making up 16 per cent of the world's population. In India, 243 million population covered by adolescent girls. During this age there are rapid physical, cognitive and psychosocial growth. This phase is equal to puberty and cycle of physical changes peak point in reproductive maturity. About 40% of the early adolescent female experiencing menstruation before completing their secondary education and about 42% having dysmenorrhea.

Basically, dysmenorrhea is of two types, primary dysmenorrhea and secondary dysmenorrhea. Primary dysmenorrhea refers to painful menses or cramps in the lower abdomen before, and/or during menstruation without any disease condition. Dysmenorrhea is the most common gynecological disorder among female adolescent, with a prevalence of 16.5% as per the report of Indian council of medical research.

The early adolescent girls do not have knowledge about the dysmenorrhea and they use the pharmacological drugs to relieve pain, as after some time it may develop resistance. Meftal spas tablet is most commonly used. Home and alternative therapies are available to treat primary dysmenorrhea with no side effects, if used properly. In ayurveda, ginger is reported to be useful in treating pain and inflammation. Ginger exerts its ameliorative effect and it could be related to the inhibition of prostaglandin and leukotriene biosynthesis.

The researcher personally experienced this phase in her life and found that the dependency of drugs after 12 years approximately have no effect on dysmenorrheal pain. Researcher assumed that if the herbs will be used in early phase of dysmenorrhea it can prevent the drug resistant in their life later. Hence the researcher was motivated and felt the need to do the present study to assess effectiveness of ginger tea on dysmenorrhea among early adolescent female students.

MATERIAL AND METHODS

Study design

This study was conducted in Government Inter College Mehuwala, Dehradun, India, from 17th July 2022 to 31st July 2022. Sixty students were included in the study by using Purposive sampling technique.

One group pre-test and post-test research design was adopted to assess the effectiveness of ginger tea on primary dysmenorrhea among early adolescent female students. Sixty early adolescent female student's assent and parent consent was obtained, those who fulfilled inclusion and exclusion criteria as mentioned further.

Inclusion criteria

Early adolescent girls with primary dysmenorrhea who were willing to participate in the study.

Exclusion criteria

Early adolescent girls with secondary dysmenorrhea were excluded from the study.

Tool/instrument

Data was collected for three days twice: Pre intervention and 30 minutes post intervention, after administration of ginger tea. The tools used for data collection were Self structured Socio demographic tool and Numerical Pain Rating Scale (NPRS)

Socio-Demographic Variables

This tool was developed by investigator to collect the data related to, age of the participants, age at menarche, duration of cycle, interval of cycle, duration of pain, type of family, family history of dysmenorrheal and type of food.

Numerical Pain Rating Scale

The Numerical Pain Rating Scale is a subjective measure in which subjects (Early Adolescent girls) rates their pain on eleven-point numerical scale. The scale is composed of 0 (no pain at all) to 10 (severe pain).

Statistical Analysis

Data were presented as mean $\pm$ standard deviation (SD). Wilcoxon signed rank test was performed to analyze the comparison between pre-test and post-test for three day of dysmenorrhea. Statistical significance was accepted when $P < 0.005$.

RESULTS

The study included a total of 60 early adolescent female students between 11 to 13 years of age. Comparison between pretest and post-test of severity of primary dysmenorrhea among early adolescent

female students is shown in Table No.1. The mean post intervention pain score of Day 1 (1.83 ± 0.376), Day 2 (1.73 ± 0.446) and Day 3 (1.82 ± 0.537) was lesser than the mean pre intervention score of Day 1 (2.93 ± 0.279), Day 2 (2.73 ± 0.482) and Day 3 (2.28 ± 0.537). There was significant decrease in mean pain score ($p < 0.001$).

Table 1: Comparison between pretest and post-test of Severity of primary dysmenorrhea on different days of early adolescent female students N=60

S. No.	Severity of primary dysmenorrhea	Pretest (Mean $\pm$ SD)	Post test (Mean $\pm$ SD)	*Wilcoxon signed rank test	Df	P -value*
1	Day 1	2.93 ± 0.279	1.83 ± 0.376	7.475	59	0.001
2	Day 2	2.73 ± 0.482	1.73 ± 0.446	7.620	59	0.001
3	Day 3	2.28 ± 0.537	1.82 ± 0.537	5.112	59	0.001

*Wilcoxon signed rank test applied for two group comparison

Friedman test was performed to find MD in Pain score between the three days of assessment. The results of Friedman test analysis are illustrated in Table 2 revealed that there was significant reduction on dysmenorrheal symptom after 3 days in pretest with $P=0.001$. The obtained calculated value 42.191 and the table value at df ($k=3.58$) 6.00 was significant with $p < 0.05$ level.

There was no statistically significant effect of ginger tea administration on dysmenorrheal symptom after 3 days in posttest with $P=0.356$. The obtained calculated value 2.064 and the table value at df ($k=3.58$) 6.00 was not significant with $p > 0.05$ level. The result is showing that after intervention; mean score Severity of primary dysmenorrhea is decreasing till day third.

Table 2: Compare between 3 days follow up in pre and post test of Severity of primary dysmenorrhea on different days of early adolescent female students N=60

S. No.	Severity of primary dysmenorrhea	Day 1 (Mean $\pm$ SD)	Day 2 (Mean $\pm$ SD)	Day 3 (Mean $\pm$ SD)	Test value*	df	P -value
1	Pre test	2.92 ± 0.279	2.73 ± 0.482	2.28 ± 0.613	42.191	58	0.001
2	Post test	1.83 ± 0.376	1.73 ± 0.446	1.83 ± 0.537	2.064	58	0.356

*Friedman test applied for more 3 days follow up compare

DISCUSSION

Dysmenorrhea is common among early adolescent girls which affect their daily activities leading to limitations in their social, academic and recreational activities. In this study, sixty early adolescent female students between 11 to 13 years of age showed a significant reduction in primary dysmenorrhea after ginger tea administration. The mean post intervention pain score of Day 1 (1.83 ± 0.376), Day 2 (1.73 ± 0.446) and Day 3 (1.82 ± 0.537) was lesser than the mean pre intervention score of Day 1 (2.93 ± 0.279), Day 2 (2.73 ± 0.482) and Day 3 (2.28 ± 0.537). There was significant decrease in mean pain score ($p < 0.001$). The results of present study were close to the study conducted by Skaria D, Shobana G, Venkatesan L on forty nursing students residing in hostel of Apollo College of nursing, Chennai, who found that before ginger tea administration the level of pain score was high (6.60 ± 1.59) in comparison of pain score after administration of ginger tea. (2.47 ± 1.11). The difference was found statistically significant at $p < 0.001$. According to the results, it seems that ginger tea is an effective method to reduce primary dysmenorrhea.

The above findings were supported by another study conducted by Crasta S, Fernandes P, Paul S to determine the effectiveness of ginger tea on dysmenorrhea among fifty nursing student showed that there was a significant difference in pain measurements before and after the administration of ginger tea ($p < 0.05$). The study indicates that non pharmacological intervention was needed for dysmenorrhea which is a major health problem.

All the above findings stated above were found consistent with another study conducted by Padmavathi P, Dr. Sankar R, Dr. Kokilavani N among adolescent girls in Erode to assess the effectiveness of ginger

powder on dysmenorrhea. The results showed that the pretest mean score was 65.12 ($SD = 8.74$) and the posttest mean score was 43.24 ($SD = 6.72$) with paired t value of 23.02, which was significant at 0.01 level. This showed that ginger was effective in reducing dysmenorrhea among early adolescents.

The limitation of the study is that it does not have control group and it was limited to sixty early adolescent female students.

CONCLUSION

Pain is a natural mechanism of the body. In most of the situation it is unavoidable. With appropriate interventions we can reduce the severity of pain. Now a day's everyone is moving towards ayurveda and alternative therapies. Dysmenorrhea is an important health problem for adolescents which adversely affect their quality of life. Various home and alternate therapies are available to treat primary dysmenorrhea. Ginger is reported to be effective in treating pain without much adverse affects on body. Present study also concluded that ginger tea is effective in reducing primary dysmenorrheal among early adolescent girls.

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Conflict of Interest: None declared

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