Effectiveness of Billig’s exercise in reducing primary dysmenorrhea among young girls

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ABSTRACT
Dysmenorrhea or agonising uterine cycle is one of the most common significant reasons for school non-attendance among young girls since it influences their scholarly presentation, school and sports exercises. Dysmenorrhea is the most well-known gynaecologic issue among youth girls, with a predominance of 60% to 93%. The examination planned for evaluating the adequacy of Billig’s exercise in diminishing dysmenorrhea among young girls. A quantitative methodology with the quasi-experimental design was embraced for the investigation. Sixty young girls with age between 12-17 years were enlisted by convenient sampling. The pain was surveyed by Numerical pain rating scale from both study and control gathering. After the pretest, Billig’s exercise was given to the study group on the day preceding period, day one and day two of uterine cycle, 5 — multiple times for 20 minutes every day. Following one month on next uterine cycle, Post-test was done to evaluate the degree of dysmenorrhea among the two gatherings by utilizing the same numerical pain rating scale. The mean score of post-test pain level was 1.2 in the study group, and 2 in the control group and the determined ‘t’ esteem was 5.03. This infers that there was a more critical distinction in the menstrual agony level after taking Billig’s exercise among young girls of exploratory gathering. This examination unmistakably expresses that there is a critical impact of Billig’s exercise in a decrease of agony during the monthly cycle among young girls.

INTRODUCTION
An adolescent is a stage, generally between 10 and 20 years, in which young girls experience fast changes in body size, physiologic and mental and social working. All body measurements, advancement and development, are finished. This is the net after-effect of hormones and social structures intended to cultivate the change from adolescence to adulthood. Menstrual pain has always been such a big problem for girls everywhere, and dysmenorrhea occurs without pelvic pathology affecting about 50% of women. It occurs more frequently in unmarried women. (Sanctis et al., 2015; Harlow and Campbell, 2004; Latthe et al., 2006) As indicated by the World Health Organization, Adolescent is the time of life that reaches out from 10 years to 19 years. The Indian Academy of Pediatrics characterizes young adult is the time of life between 10 years to 18 years. Self-assertively, young adult is partitioned into three stages, early, center and late pre-adulthood. Early youthfulness alludes to age 10 to 13 years, center pre-adulthood 14 to 16 years and late puberty 17
to 20 years. As per the UNICEF, Adolescence is the grouping of occasions where the individual is changed into a youthful grown-up by a progression of natural changes (Davis and Westhoff, 2001).

Primary dysmenorrhea is also known as primary spasmodic dysmenorrhea. Primary dysmenorrhea is one where there is no recognizable pelvic pathology. This is an excellent, engaging term for a state of dull pulsating, squeezing lower midsection pain that may penetrate to the lower back and thighs, often associated with gastrointestinal and neurological symptoms. During a severe exacerbation, the patient may look drawn as well pale and may vomit or have diarrhea, rectal pain. It typically starts barely any, last hours or after the beginning of the monthly cycle and keeps going between 6 and 72 hours. Secondary dysmenorrhea is regularly viewed as period, related agony happening within sight of pelvic pathology. The natural frequency and predominance of dysmenorrhea are not established in India. In an ongoing examination, it is reasoned that dysmenorrhea (87.87%) is a typical issue in India (Choi and Salmon, 1995).

Dysmenorrhea or agonising monthly cycle is one of the most significant reasons for school non-appearance among young ladies since it influences their scholarly presentation, school and sports exercises. Dysmenorrhea is the most widely recognized gynecologic issue among female young, with a predominance of 60% to 93% (Chaudhuri et al., 2013). A national study directed among young ladies demonstrated that 40 per cent of the under-studies regularly missed their school and school because of severe menstrual spasms. Dysmenorrhea is liable for critical truancy from work, and it is the most well-known explanation behind school non-attendance among young girls (Reyhani et al., 2013).

Studies uncovered that pharmacological measure would cause undesirable symptoms. Around 30% of young people use meds to oversee dysmenorrhea, and about 80% don’t utilize the remedy of a drug. Billig’s exercise practice assists with calming menstrual inconvenience through expanded vasodilatation and resulting diminished ischemia arrival of endogenous narcotic (Daley, 2008). Nine conducted a Cross-Sectional study among 763 twelfth grade female school students in Kuwait high school, to assess the prevalence of dysmenorrhea. The result showed that primary dysmenorrhea was found to be 85.6% (Al-Matouq et al., 2019). (Kaur et al., 2018) conducted a quasi-experimental study at Manipal University to assess the role of combined exercise on primary dysmenorrhoea among 100 girls with primary dysmenorrhoea. The results showed that exercise had a good effect on pain intensity among young women with primary dysmenorrhoea.

The Billig’s exercises are easy to do, it is highly valuable in keeping up quality in the low back and fortifies the Para-spinal muscles, the hamstring muscles in the rear of the thighs, the abs and the gluteal muscles. The benefits of Billig’s exercises are to strengthen the muscles of the pelvic floor. Older adults suffering from urinary incontinence due to weak pelvic floor muscles strength has significant improvement in function with the Billig’s exercises (Billig, 1943). The purpose of the study was 1. To assess the level of primary dysmenorrhoea among adolescent girls in the experimental and control group. 2. To assess the effectiveness of Billig’s exercise on menstrual pain among adolescent girls in experimental group. 3. To associate the level of primary dysmenorrhoea among adolescent girls with selected demographic variables.

MATERIALS AND METHODS

A quantitative approach with a quasi-experimental design was adopted for the study. The study was conducted in Semmiyamangalam Village at Thiruvannamalai among 60 adolescent girls. Sixty adolescent girls in age between 12-17 years were recruited by Purposive sampling technique. The inclusion criteria for the sampling were girls with the age group of 12-17 years with primary dysmenorrhoea and available during the period of data collection. The proper consent was gotten from our village president of Semiyamangalam village, Thiruvannamalai district to lead the investigation with an affirmation to submit to the guidelines of the town. Consent was taken from the samples. Out of 60 examples, 30 were considered as study gathering, and 30 were considered as control gathering. After the overall directions, the baseline information was gathered along with menstrual information. After pretest Billig’s exercise thought to the study gathering on the day preceding period, day one and day two of the feminine cycle, 5 - multiple times for 20 minutes per day. Following one month on the next menstrual cycle, Post-test was done to evaluate the degree of dysmenorrhoea among the two gatherings by utilizing the same numerical pain rating scale. The data were analyses using descriptive and inferential statistics.

RESULTS AND DISCUSSION

Section A: Sample Characteristics

The sample characteristics reveal that out 60 samples, 30 samples belong to the experimental group.
Majority of the girls 18 (60%) belong to the age group of 12-14 years, 11 (36.67%) was in 9th standard, 26 (86.67%) young girls accomplished menarche between the age bunch more prominent than 12 years, 24 (80%) had a span of the period for 4-5 days, 15 (50%) had once in 29-30 days, 22 (73.33%) had pain for 12-24hrs, 27 (90%) had moderate flow, 24 (80%) had cramping pain, 20 (66.67%) of young girls had lower stomach pain, regarding the associated symptoms during menstruation 19 (63.33%) having vomiting, regarding the psychological disturbances during menstruation 21 (70%) had occasionally disturbances, regarding using of medication 18 (60%) had not taken a drug, for the deduction of the investigation 24 (80%) of teenagers young ladies were in some cases missed the school.

In control group majority of the samples belong 18 (60%) to the age group of 15-17years, 9 (30%) were in 11th standard, 13 (43.33%) young girls achieved menarche between the age gathering of 12-13 years, 14 (46.67%) young girls had 2-3 days length of period, 22 (73.33%) had once in 29-30 days, 23 (76.67%) had pain for 12-24 hrs, 17 (56.67%) had moderate pain, 23 (76.67%) had cramping pain, 17 (56.67%) of young girls had lower stomach pain, Regarding the associated symptoms during menstruation 14 (46.67%) of young girls having nausea in their periods, regarding the psychological disturbances during menstruation 22 (73.34%) had occasionally disturbances, regarding using of medication 15 (50%) had not taken drugs, for the deduction of the investigation 18 (60%) missed the one day of school.

Section B: Assessment of dysmenorrhea among the adolescent girls of the experimental and control group.

The pretest reveals that among experimental group 3 (10%) young girls had mild dysmenorrhea, 19 (63.4%) had moderate dysmenorrhea, and rest 8 (26.6%) young girls had severe dysmenorrhea. While in the control group 8 (26.7%) young girls had mild dysmenorrhea, 16 (53.3%) had moderate dysmenorrhea, and rest 6 (20%) had severe dysmenorrhea.

The post-test reveals that among experimental group 4 (13.3%) had no pain, 16 (53.4%) had mild pain, 10 (33.3%) had moderate pain, and none of them had severe dysmenorrhea. Whereas in the control group, 11 (36.6%) had mild dysmenorrhea, 8 (26.8%) had moderate dysmenorrhea, and remaining 11 (36.6%) had severe dysmenorrhea.

Section C: Comparison of dysmenorrhea among the adolescent girls of experimental and control group

The above table uncovers that the mean and standard deviation of pre and post-test level of dysmenorrhea among the exploratory gathering. In exploratory gathering, it indicated a mean estimation of 2.1 with a standard deviation of 0.58 in pretest level and a mean of 1.2 with standard deviation 0.66 in the post-test level of dysmenorrhea among young girls. The mean distinction was 0.9, and the determined ‘t’ esteem was 5.61 which show that there was a striking contrast between the pre and post-test level of dysmenorrhea among young girls in the trial bunch was held at P<0.05 level Table 2. The above table portrays that the mean of post-test in the trial bunch was 1.2, which was lower than the mean post-test an incentive in control bunch, which was 2., demonstrated the contrast between the mean 0.8 was a genuine distinction and has not happened by some coincidence. The contrast between the two methods could be because of the impact of Billig’s exercise. The determined ‘t’ esteem was 5.03, which shows that there was an essentialness distinction in the viability of Billig’s activity among test and control bunch at p<0.05 level. Henceforth, the examination theory expressed that, there was an essential distinction between the post-test level of dysmenorrhea among young girls between the trial and control bunch was acknowledged Table 3.

Section D: Association of selected demographic variables with post-test score regarding menstrual pain among adolescent girls

There was no association between the demographic and menstrual variables with the effectiveness of Billig’s Exercise in reducing primary Dysmenorrhea among Adolescent Girls.

CONCLUSIONS

The Billig’s exercises are easy to do, and it is highly valuable in keeping up quality in the low back and fortifies the Para-spinal muscles, the hamstring muscles in the rear of the thighs, the abs and the gluteal muscles. In this manner examination unmistakably expresses that there is a critical impact of Billig’s exercise in a decrease of torment during the period among adolescent girls.

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Table 1: Frequency and distribution of level of dysmenorrhea among adolescent girls (N-30).

| Group            | Pre-test | Post-test | Mean difference | ‘t’ test value |
|------------------|----------|-----------|-----------------|---------------|
|                  | Mean     | SD        | Mean            | SD            |               |
| Experimental     | 2.1      | 0.58      | 1.2             | 0.66          | 0.9           | 5.61 *S       |

Table 2: Mean and standard deviation of pre and post-test level of dysmenorrhea of experimental group (N-30).

| Group            | Pre-test | Post-test | Mean difference | ‘t’ test value |
|------------------|----------|-----------|-----------------|---------------|
|                  | Mean     | SD        | Mean            | SD            |               |
| Experimental     | 2.1      | 0.58      | 1.2             | 0.66          | 0.9           | 5.61 *S       |

Table 3: Comparison of the mean and standard deviation of post-test level of dysmenorrhea among adolescent girls between the experimental and control group (N-60).

| Group            | Post-Test | ‘t’ test value |
|------------------|-----------|---------------|
|                  | Mean      | SD            |               |
| Experimental     | 1.2       | 0.66          | 5.03 *S       |
| Control Group    | 2         | 0.57          |               |

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Conflict of Interest

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