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Prevalence Of Cyclic Mastalgia In Young College Going Girls

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Abstract

Background: Cyclic mastalgia is defined as breast pain before the onset of the menstruation and subsides with the onset of the menstrual cycle .The symptoms of cyclic mastalgia can range from mild, moderate to severe and are experienced few days before the menstrual cycle. The pain can be experienced either unilaterally or bilaterally and is mostly associated with tenderness. Cyclic mastalgia is a common problem that can be severe to interfere with usual activities. The growing evidence of cyclic mastalgia is more than 50% in women of reproductive age. Clinical follow up studies have reported varied risk ratios of benign breast diseases developing into breast cancer
Objective The purpose of this study was to find the prevalence of cyclic mastalgia in young collage going girls with usage of following tools: intensity assessment, tenderness grading and sf 12 questionnaire for quality of life
Methods 51 girls were recruited for the study based on inclusion and exclusion criteria. The outcome measures used were numerical pain rating scale (NPRS) to determine the intensity of the breast pain and after assessment score was recorded. Breasts were assessed for tenderness and graded accordingly. The participants were explained about the grades in their local language and in terms like mild, moderate, severe according to grade specification .SF12 questionnaire was administered to the participants, and results were recorded accordingly.
Results The result suggested that majority of women (57%) experienced cyclic mastalgia. Out of these, 60.7% girls presented with mild breast pain and 17.6% and 21.5% girls had moderate to severe mastalgia respectively. BMI and Tenderness were found significantly correlated with each other (P = 0.001)
Conclusion The present cross-sectional study concluded that prevalence of cyclic mastalgia was 57% .BMI and waist hip ratio were found positively correlated (P = 0.001 and P = 0.001) with tenderness.

Key words: Cyclic mastalgia, premenstrual syndrome, Tenderness , quality of life

Introduction

Cyclic mastalgia is defined as breast pain before the onset of the menstruation and subsides with the onset of the menstrual cycle .The symptoms of cyclic mastalgia can range from mild moderate to severe and are experienced few days before the menstrual cycle. The pain can be experienced either unilaterally or bilaterally and is mostly associated with the tenderness [1] .

Women at the reproductive age experiences symptoms of cyclic mastalgia. It causes due to normal monthly changes in hormones. This pain can occur bilaterally .Treatment is not necessary to relieve pain it usually disappears at menopause.[2] Cyclic mastalgia is a common problem that can be sufficiently severe to interfere with usual activities, and it has been associated with elevated mammography usage in young Women. Certain degree of anxiety causes because of cyclic mastalgia which leads to repeated investigation and some degree disturb a Woman's life style .More than half of the female population reported this during reproductive years [4]

There are three categories of Cyclic Mastalgia, according to the Cardiff Mastalgia Clinic as follows(1)Cyclicmastalgia (associated with the menstrual cycle): The pain is typically experienced during the luteal phase of menstrual cycle and it is associated with the ovulatory phase of the menstrual cycle. The presentation of the symptoms can be different in individuals, and the quality of the pain is mostly reported to be as sharp, shooting, stabbing, heaviness, aching, and throbbing. The pain is accompanied by tenderness of the breasts to deep palpation.

(2)Noncyclic mastalgia (not associated with the menstrual cycle): This pain is not dependent to the menstruation, and there is no specific pattern in which the condition presents. Pain is often well localized to a particular region of the breast but it is not felt all over the breasts. The pain is often felt over both sides, and quality of pain is reported to be heavy, aching, fearful, burning, pulling, stabbing, pinching and the breasts are tender on palpation

(3)Chest wall pain: This pain is not associated with the menstrual cycle, and it has no specific pattern. It can be seen in all age groups and can occur at any time of the age. The pain is often unilateral as in rib pain, muscular pain, operative injury, or referred pain .[1]

Mastalgia can be associated with premenstrual syndrome, breast cancer, fibrocystic breast disease, psychological disturbance. This variation in the prevalence of cyclic mastalgia is independent on personal and social characteristics, but also is dependant to various determinant factors such as smoking, age, social, physical activities, and even psychological disturbance, that should be identified to proper management of this phenomenon in each population. Beside, because of its probable association with breast cancer, identified risk factor of cyclic mastalgia is necessary .[2]

The realization of benign breast disorders may develop during adolescence but may not be diagnosed till adulthood.The prevalence of cyclic mastalgia is more than 50% in women of reproductive age. Clinical follow up studies have reported varied risk ratios of benign breast diseases developing into breast cancer.Therefore, prime importance is to identifying and treating young women with mastalgia. To the best of our knowledge, there is dearth of literature in the field of cyclic mastalgiaand it affects women on larger scale so it can be beneficial.

Aim of the study

The present study was undertaken to estimate the prevalence of cyclic mastalgia among young collage going girls in pune city

Methodology

The study design was cross sectional study design. The target population was females aged 18-30 years. The sample size for the present study was 90. The sampling design used was random sampling and sampling technique was convenience sampling. Female participants with the following were included in the study: (1)Age between 18-30 year (2)Nulliparous females,(3)Willing to participate in the study . Females excluded from the study were (1)Pain arising from the chest wall, (2) Individuals on hormonal therapy , (3) On medications for mastalgia , (4) Breast feeding . Outcome measures for this study was NPRS, tenderness and quality of life score (sf12 questionnaire) Approval for the study

was obtained from ethical committee ofTilak Maharashtra Vidyapeeth's College of physiotherapy, Pune. Participants were recruited based on the inclusion and exclusion criteria. A written informed consent was obtained from the study participant .90 girls were screened for the study but 51 girls were recruited for this present study. The present study used the covariates such as age when attend menarche, menstruation cycle if regular or irregular, weight, height, and body mass index (BMI). The numerical pain rating scale (NPRS) was administered to the participate to determine the intensity of the breast pain and was explained to them in their vernacular languages, and NPRS score was recorded. Breast were assessed for tenderness and graded accordingly. The participants were explained the grades in theirlocal language and in term mild, moderate, severe according to grade specification SF12questionnaire was administered to the participants, and score were recorded

Result And Statistical Analysis

A total of ninety girls agreed to participate in this present study but out of 90 only 51 girls had breast pain during menstruation, so this present study was recruited on those 51 girls. The sociodemographic details are recorded in Table 1.

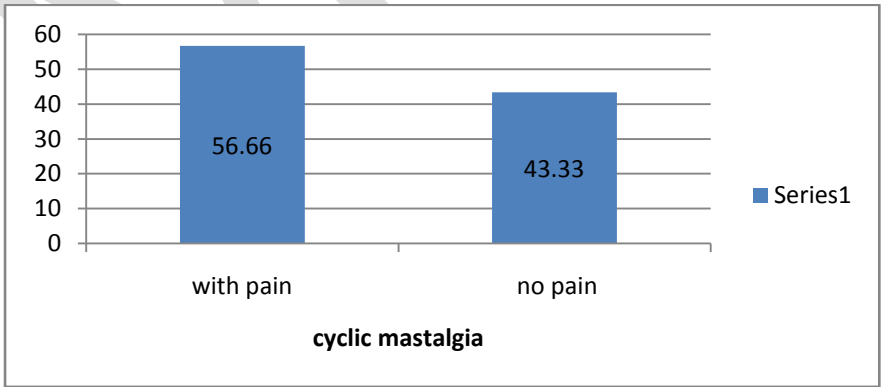
Table no.1

characteristics	Units/scale	mean±SD
Age	years	21.078±2.4078
Weight	kilograms	52.2±9.15
Height	centimetre	158.6±6.35
BMI	Kg/m^2	20.8±3.74
Age of menarche	years	14.0±1.31
Menstrual pattern	Regular/irregular	0.58±0.49
NPRS	numerical	4.3±1.68
Tenderness	grades	1.37±0.48
Waist Hip ratio		0.76±0.076
Quality of life	Physical score	44.0±5.89
	Mental score	45.9±7.15

SD standard derivation NPRS numerical pain rating scale BMI body mass index

The data was processed using descriptive statistics –for demographic data name,age,BMI,age of menarche. Tables were made using Microsoft word and figure were plotted using Microsoft Office Excel 2010 .This study included total 51 participants and graphical presentation was done the result are shown in graphs

Graph No 1: girls with Cyclic Mastalgia



The presence of cyclic mastalgia was reported 56.66% of studied women

Graph no 2: BMI

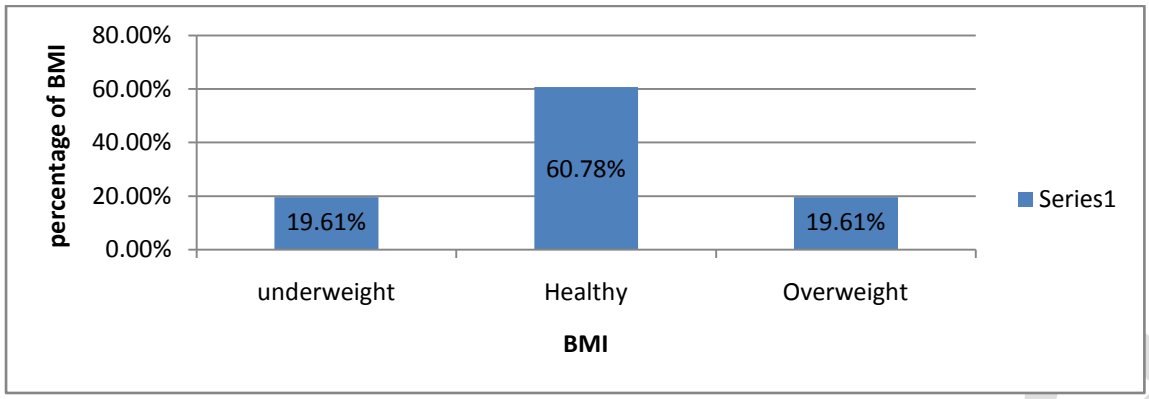


Table No 2

Correlation	p value	Significance
BMI- NPRS	0.001	Significant
BMI- Tenderness	0.1	Not significant

Graph NO 3: Waist Hip Ratio

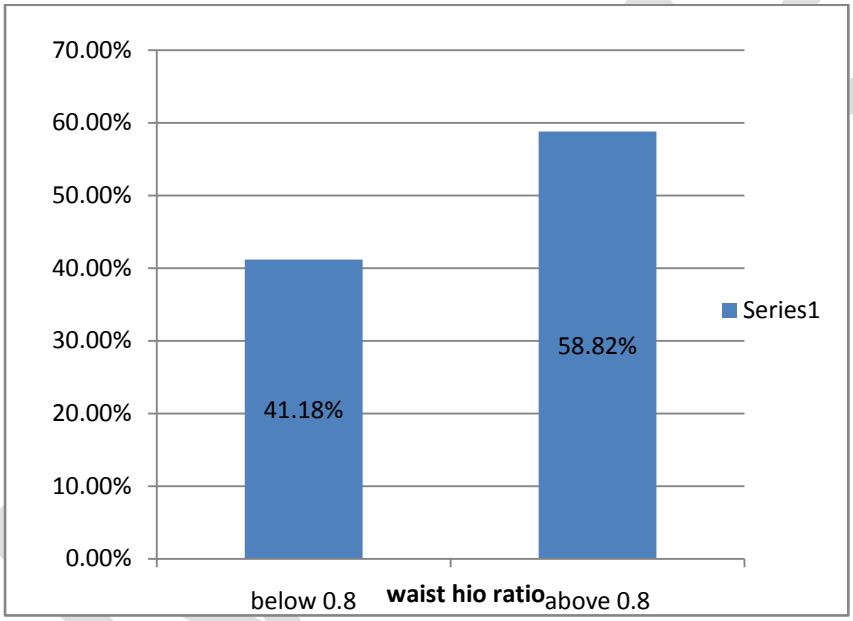


Table No.3

correlation	p value	Significance
W/H ratio - Tenderness	0.001	Significant
W/H ratio- NPRS	0.1	Not significant

Graph No 4: NPRS

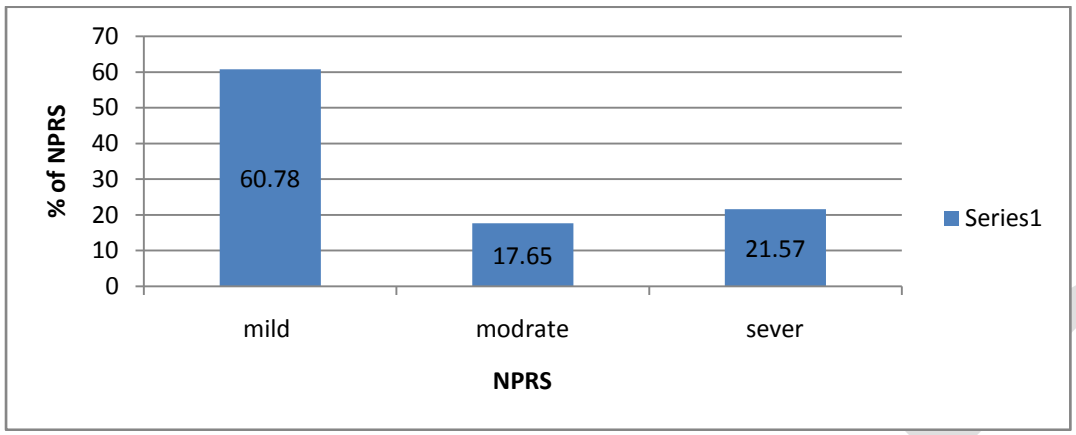
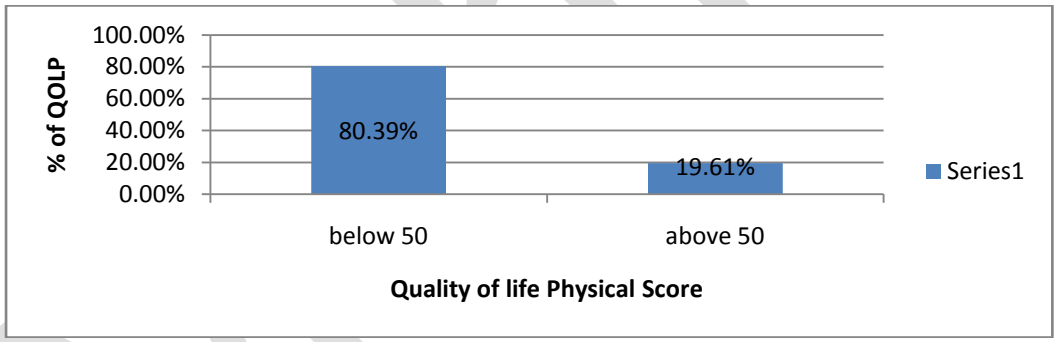


Table No. 4

correlation	p value	Significance
NPRS-BMI	0.1	Not significant
NPRS-Waist/hip ratio	0.1	Not significant
NPRS - QOLp	0.01	Significant
NPRS - QOLm	0.01	Significant

According to Table no 4, Quality of life was significant with pain

Graph No 5: Quality of Life



Graph No 6:

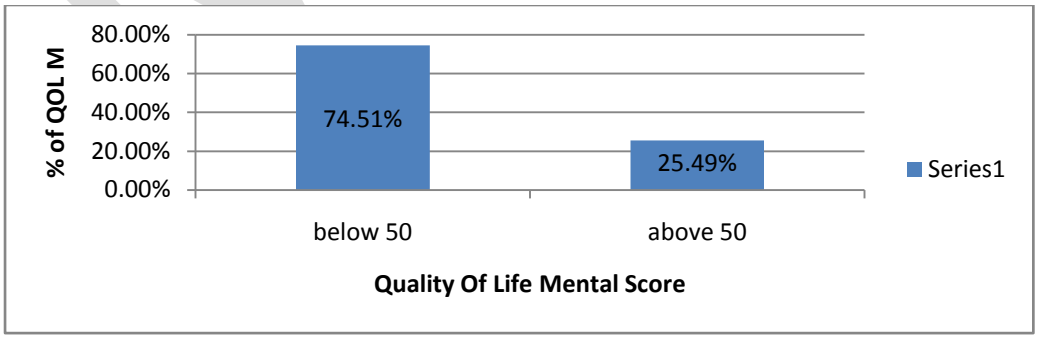


Table No 5

Correlation	p value	Significance
QOLp -menses	0.1	Not significant
QOLm - menses	0.1	Not significant
QOLp-NPRS	0.01	Significant
QOLm-NPRS	0.01	Significant

Graph No 7: Tenderness

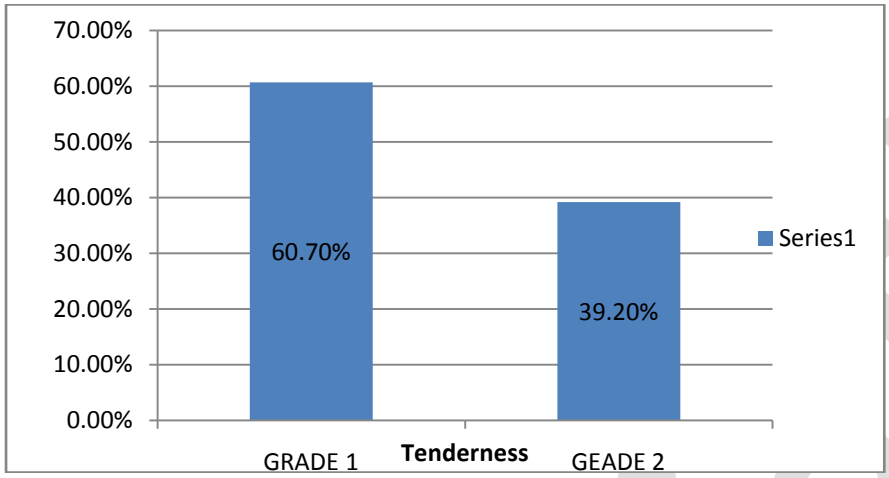


Table no:6

correlation	p value	Significance
Tenderness-BMI	0.001	Significant
Tenderness-W/H ratio	0.001	Significant

Graph no 8: menstrual pattern

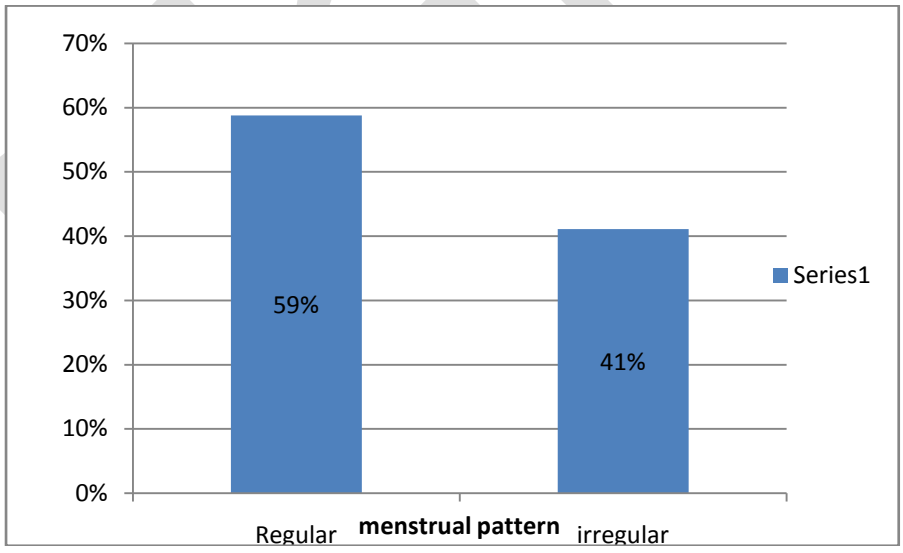


Table No 7

correlation	p value	Significance
Menses - QOLp	0.1	Not significant
Menses- QOLm	0.1	Not significant

Table no 8

correlation		t value	p value	α value
BMI^ NPRS	-0.019275	0.931	0.1	0.05
BMI^Tenderness	-0.2037	-10.37	0.001	0.005
W/H ratio^Tenderness	0.077	3.796	0.001	0.001
W/H ratio^NPRS	0.01923	0.931	0.1	0.05
Menses^QOLp	0.16033	8.65	0.1	0.5
Menses^QOLm	0.16033	8.65	0.1	0.5
NPRS^QOLp	-0.142	-7.1	0.01	0.05
NPRS^QOLm	-0.29046	-14.22	0.01	0.05

Table no 9

Multiple Correlations between body mass index, tenderness and NPRS

BMI(r1)t(r2)NPRS(r3)	t value	p value	α value
r= 1.23= 0.06 (moderate)	2.95	0.01	0.001

BMI body mass index ,t tenderness ,NPRS numerical pain rating scale

Correlation between BMI and Cyclic mastalgia was assessed in this study, the result supports that there was significant correlation between BMI and Cyclic mastalgia (Table no 2)

Discussion

The motive of this study was to find out prevalence of cyclic mastalgia in young collage going girls because breast disorders may develop during adolescence but may not be diagnosed till adulthood so identifying and treating young women with mastalgia are of prime importance

The present study estimates the Prevalence of cyclic mastalgia in young collage going girls, where 56.66% girls had CM and 43.33% had no pain during menstruation cycle.

Cyclic mastalgia is a common problem, sometimes severe enough to interfere with usual activities, and it is associated with high use of mammography among young women. This disorder merits further biopsychosocial investigation. Although mastalgia is common, the impact on everyday living should not be underestimated. Ader and Shriver [11] reported that 30% of premenstrual women suffered from cyclical mastalgia lasting for more than 5 days a month, which was of sufficient severity to interfere with sexual, physical, social and work-related activities. Cyclic breast pain occurs in both breasts, sometimes more one-sided than another. It is often felt more in the lateral aspect where there is more breast tissue. It may differ from month to month but always gets worse before a period and then lets up with menstruation [4]

In the present study, prevalence of mastalgia is higher (56.66%) as compared to study by SukanyaRaghunath showed that (47.33%) CM with sample size of 748 within the age range of 18-29 years, this is probably due to sedentary life style of our participants. In this study included assessment of pain score by using NPRS. The mean NPRS score was 4.31, in which, there were 31 girls with mild breast pain (60.78%), 9 girls with moderate pain (17.65) and 11 girls with severe breast pain (21.57%). More recently, Barros etal.studied on breast pain chartwhich was more effective in mild pain cases, it still helped over 50% of those women with severe pain mastalgia. Prospective daily recording of breast pain can be of great value to both the patient and doctor, providing reliable data on the severity and duration of symptoms. It also assists in deciding whether the pain is cyclical or

not in equivocal cases. Scales such as the Cardiff Breast Pain Chart allow patients to accurately review their symptoms, many deciding that the pain is not of sufficient impairment to warrant side effects of possible treatment. After several months of such analysis, up to one fifth of patients will find spontaneous symptom relief. And this study showed 70.2% of success rate with reassurance[12] In this study body mass index were calculated, according to BMI calculation there were 10 girls of underweight (19.61%), 31 girls were healthy (60.78) and 10 girls were overweight (19.61%) In the present study, out of 51 girls there were 21 girls who had waist hip ratio under 0.8 (41.18%) and 30 girls who had ratio above 0.8 (58.82%). The QOL was also assessed in our study using SF-12 questionnaire, The QOL questionnaire consists of eight domains of physical fitness, in the present study, individual components such as physical functioning, physical health, emotional problems, energy/fatigue, emotional well-being, social functioning, pain scores, and general health were assessed and were found to be affected due to the cyclic mastalgia . There were 41 girls with below 50 quality of life physical score(80.39%) and 10 girls with above 50 quality of life physical score (19.61%),which shows 80.39% girls has physical condition ,girls had quality of life mental score less than 50 (74.51%) and 19 girls had score above 5 (25.49%),which shows 74.51% girls were in clinical depression. The breast tenderness were also assessed in this present study by using grades in which 32 girls with mild tenderness (60.70%) and 19 girls with moderate tenderness (39.20%) In this present study out of 51 girls 21 with regular menstrual pattern (59%) and 21 with irregular menstrual pattern (41%)

Correlation between BMI and cyclic mastalgia was assessed in our study; the results showed statistically significant between BMI and cyclic mastalgia (p = 0.001). This can be positively correlated to a study conducted on young Indian females aged 18–29 years with complaints of cyclic mastalgia. . Regarding BMI in our study, the mean BMI was (20.8±3.71) ranged from (18-30), while Olfatiet al.2009 who study the relationship between BMI and mastalgia on 102 patients in Iran, stated that the mean BMI was (28.81± 3.22) and it concluded that patient with abnormal BMI had mastalgia than those with normal BMI. [13] This is probably due to having sedentary life style. Study also found positive correlation between waist hip ratio and tenderness. The present study assessed the pain score for breast by using NPRS which shows significant correlation between quality of life. Breast pain can be reduced according to study of sumruddhibarve the exercise intervention proved to be effective in decreasing pain as the literature suggests that when regular physical activity or exercises were performed, it enhances the return of blood to the heart and improves the blood circulation to the entire body. Another reason is that when exercises are performed, it helps in the release of prostaglandins into the body which in turn reduces or prevents pain and the associated discomfort.[1]

The present study focussed on women in the age group of 18–29 years to determine the prevalence of mastalgia among young women population as there is a need to educate them and bring awareness about the importance of breast self-exam ination (BSE) because itm aybe a risk factors for breast cancer, thus it enlightened the females regarding the importance of mastalgia

Limitations of this study is that a study was conducted tenderness grades by using palpation method but girls were not comfortable to assess their breasts and sample size was less. Future studies on adolescent and young women can be planned for different ethnic groups . Assessment may include psychological scale to measure stress . The study created a database regarding the prevalence of cyclic mastalgia, and it maybe a risk factors for breast cancer ,thus it enlightened the females regarding the importance of mastalgia

Conclusion

The present cross-sectional study concluded that out of 90 participants, 51 i.e. 57% females showed symptoms of cyclic mastalgia and 39 i.e. 43% did not show any symptoms of cyclic mastalgia.BMI and waist hip ratio were found significantly correlated (P = 0.001 and P = 0.001) withtenderness .Pain and quality of life is significantly correlated with each other.

Conflicts Of Interest

There are no conflicts of interest

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