PREVALENCE OF PRIMARY DYSMENORRHEA IN YOUNG WOMEN- AN INSTITUTIONAL STUDYJayanthi Potharaju¹, Prasad Usha²¹Associate Professor, Obstetrics & Gynaecology, Siddhartha Medical College, Vijayawada, Andhra Pradesh.²Associate Professor, Obstetrics & Gynaecology, Siddhartha Medical College, Vijayawada, Andhra Pradesh.**ABSTRACT****BACKGROUND**

Dysmenorrhea is a common menstrual problem which is encountered in young women and needs emphasis. It leads to social withdrawal, absenteeism from school and work.

The aim of the study is to know the prevalence of primary dysmenorrhea in unmarried women less than 25 years of age without organic pathology and to understand the distribution of various risk factors.

MATERIALS AND METHODS

This is a hospital-based, prospective, cross-sectional study conducted for a period of 1 year. Unmarried women <25 years without any organic pathology attending the Gynaecology Outpatient Department with complaints of dysmenorrhea were included in the study. A questionnaire was given to them and results tabulated.

RESULTS

Prevalence of dysmenorrhea was 58%, 17% presented with severe dysmenorrhea. Social withdrawal was seen in 12% of cases. Dysmenorrhea beyond 17 years was seen in 54% of cases, 48% were from rural areas, 58% cases were from low socioeconomic group and 32% were underweight. 59% of cases attained menarche after 12 years of age and 41% before 12 years. Irregular menstruation was seen in 38% of cases, positive family history was seen in 35% of cases. 92% of cases had dysmenorrhea during menstruation. 93% cases adopted more than one method as therapy, they being, application of heat, abdominal massage and intake of anti-inflammatory drugs (NSAIDs).

CONCLUSION

Dysmenorrhea in young women is a major problem and needs to be effectively managed. In the present study, 17% suffered from severe dysmenorrhea. Social withdrawal was seen in 12% of cases. The subjects who consumed egg, fruits and tea everyday suffered from mild dysmenorrhea. Majority of the subjects took Paracetamol as a treatment for dysmenorrhea. Severe dysmenorrhea was controlled by intake of oral contraceptives.

KEYWORDS

Primary Dysmenorrhea, Prevalence, Young Women, Risk Factors.

HOW TO CITE THIS ARTICLE: Potharaju J, Usha P. Prevalence of primary dysmenorrhea in young women- An institutional study. J. Evolution Med. Dent. Sci. 2017;6(95):6948-6951, DOI: 10.14260/jemds/2017/1508

BACKGROUND

Menstruation occurs when the uterus sheds its lining once a month. Some amount of pain, cramping is normal. Dysmenorrhea is known as a painful period during menstruation. There are two types of dysmenorrhea, primary and secondary. Primary dysmenorrhea occurs in women who experience pain before or during menstruation and is common in adolescents. A woman who had normal periods but later develops dysmenorrhea is known as secondary dysmenorrhea and is due to organic pathology in the uterus. Some women are at higher risk and the risk factors are age <20 years, family history of dysmenorrhea, smoking, heavy bleeding, irregular bleeding, menarche before 12 years, low body weight and nulliparous women.^[1] Dysmenorrhea is estimated to affect 25% of women mainly in late teens.^[2]

The hormone called prostaglandins trigger muscle contraction in uterus that expels endometrium. The level increases before menstruation. In older women, organic pathology is more common cause of dysmenorrhea, like fibroids, adenomyosis or endometriosis. In married women, the cause of dysmenorrhea could be due to ectopic pregnancy, pelvic inflammatory disease and interstitial cystitis. Hence, in all the cases of dysmenorrhoea, ultrasonographic examination is a must. Majority take treatment at home by applying heating pad, regular exercises, massaging abdomen, doing yoga, anti-inflammatory drugs and multivitamins. Survey in Norway showed 14% of females between ages 25 to 35 years, experience severe symptoms with dysmenorrhea which abstains them from work.^[3] In the present study, an attempt was made to analyse the prevalence and distribution of risk factors in cases of primary dysmenorrhea in unmarried young women.

MATERIALS AND METHODS

This is a hospital-based, prospective, cross-sectional study conducted for a period of 1 year from January 2016 to December 2016. Unmarried women less than 25 years of age with complaints of abdominal pain during or just before menstruation attending the Gynaecology Outpatient Department were included in the study. All the patients were subjected for ultrasonographic examination to rule out any

'Financial or Other Competing Interest': None.
Submission 20-10-2017, Peer Review 04-12-2017,
Acceptance 11-12-2017, Published 23-12-2017.

Corresponding Author:

Prasad Usha,

Q No. 49-3-3,

Lalithanagar,

Visakhapatnam- 530016

Andhra Pradesh.

E-mail: ushaprasad411@gmail.com

DOI: 10.14260/jemds/2017/1508

organic pathology. Cases with organic pathology were excluded from the study.

100 cases were randomly selected and a questionnaire in local language/English was given to them and data was analysed and tabulated using percentages.

The Questionnaire was-

1. Name and Address.
2. Age.
3. Education.
4. Economic status: <10,000/month; >10,000/month.
5. Family history of dysmenorrhea.
6. Habitat: Rural/Urban/Tribal.
7. Family type: Nuclear/Large.
8. Dietary habits: Eggs/Fruits/Tea/Coffee/Coke/Chocolate/Alcohol.
9. Weight.
10. Age of menarche.
11. Any other chronic disorder.
12. Excessive menstruation/irregular menstruation.
13. Associated symptoms: abdominal bloating/breast tenderness/insomnia/social withdrawal/poor concentration/irritability.
14. Dysmenorrhea: before menstruation/during menstruation.
15. Leading to drop out from college/work.
16. Therapy: Home remedies/Allopathy/Homeopathy/Ayurvedic.

Dysmenorrhea was graded based on the following criteria:

- Grade 1: Mild pain during menstruation.
- Seldom inhibits normal activity.
- Analgesics are seldom required.
- Grade 2: Moderate pain during menstruation.
- Daily activity affected.
- No absence from work.
- Analgesics required and give relief.
- Grade 3: Severe pain during menstruation.
- Activity clearly inhibited.
- Absence from work.
- Poor effect of analgesics.
- Associated with headache, fatigue, vomiting, diarrhoea.

RESULTS

The grades of dysmenorrhea; mild dysmenorrhea was seen in 61% of cases, moderate dysmenorrhea in 22% of cases and 17% presented with severe dysmenorrhea. [Table 1].

Grades of Dysmenorrhea	Number of Cases	Percentage
Grade 1(mild)	61	61
Grade 2 (moderate)	22	22
Grade 3 (severe)	17	17
Total	100	100

Table 1. Grades of Dysmenorrhea-100

The symptoms associated with dysmenorrhea was nausea and vomiting (78%), poor concentration (32%), irritability (21%), breast tenderness (20%), insomnia (15%) and social withdrawal in 12% of cases [Table 2].

Associated symptoms	Number of cases	Percentage
Nausea and Vomiting	78	78
Insomnia	15	15
Poor concentration	32	32
Breast tenderness	20	20
Social withdrawal	12	12
Irritability	21	21
Total	100	100

Table 2. Associated Symptoms with Dysmenorrhea

The dietary history in subjects with dysmenorrhea was: consumption of 1 egg/day (78%), fruits 1/day (55%), tea 4 cups/day (68%), coffee 3 cups/day (79%), coke 200 mL/day (15%), chocolate 2 bars/day (32%) and alcohol consumption occasionally in 3% of cases. [Table 3].

Dietary Habits	Percentage of Cases
Eggs: 1/day	78
Fruits :1/day	55
Tea :4 cups/day	68
Coffee: 3 cups/day	79
Coke :200 mL/day	15
Chocolate: 2 bars/day	32
Alcohol: Occasional	3

Table 3. Dietary Habits

Dysmenorrhea beyond 17 years was seen in 54% of cases and 46% of cases occurred in cases less than 17 years of age. Dysmenorrhea was seen in 5% of tribal cases, 48% were from rural areas and 47% from urban area. 58% cases were from low socioeconomic group. 62% belonged to nuclear family. 32% were underweight, 20% were overweight and 48% were of normal weight. [Table 4].

Parameters	No. of cases	%
Age		
≤17 years	46	46
>17 years	54	54
Habitat		
Rural	48	48
Urban	47	47
Tribal	5	5
Income of family		
<10,000/month	58	58
>10,000/month	42	42
Family type		
Nuclear	62	62
Large	38	38
BMI		
18-24.9 kg/m ² (Normal weight)	48	48
25-29.9 kg/m ² (Overweight)	20	20
<18 kg/m ² (Underweight)	32	32

Table 4. Demographic Parameters in Dysmenorrhea

59% of cases attained menarche after 12 years of age and 41% attained below 12 years. Irregular menstruation was seen in 38% of cases, excessive menstruation in 28% and normal menstruation in 34% of cases. Positive family history was seen in 35% of cases. 92% of cases had dysmenorrhea during menstruation, 39% had taken therapy. [Table 5].

Details	Number of Cases	Percentage
Age of menarche		
≤12 years	41	41
>12 years	59	59
Excessive menstruation	28	28
Irregular menstruation	38	38
Normal menstruation	34	34
Family history of dysmenorrhea		
Yes	35	35
No	65	65
Dysmenorrhea		
Before menstruation	8	8
During menstruation	92	92
Treatment taken for dysmenorrhea		
Yes	39	39
No	61	61

Table 5. Menstrual History

93% cases adopted more than one method of therapy, they being application of heat, abdominal massage and intake of anti-inflammatory drugs (NSAIDs). 10% of cases did exercise or yoga. 80% of cases applied either heat or did abdominal massage with or without oil and these cases mainly suffered with grade 1 dysmenorrhea. Cases with severe dysmenorrhea who did not respond to NSAIDs were put on oral contraceptives and they responded well. [Table 6].

Therapy	Percentage of Cases
Allopathy medicine	39
Ayurvedic/Homeopathy	61
Apply heat	80
Apply massage	80
Drinking tea	22
Exercises/yoga	10
Eating foods like papaya, pumpkin seeds	32
Combination of methods	93

Table 6: Treatment Adopted in Cases of Dysmenorrhea

DISCUSSION

In literature the prevalence of dysmenorrhea varied between 28% to 89.5%.^[4,5,6,7] In the study by Polat et al,^[7] the prevalence of dysmenorrhea was 72.7%. 66.2% suffered from severe and moderate dysmenorrhea which was similar to the study by Burnett et al.^[4] In the study conducted on 432 nurses by Chaya Chinda C et al,^[8] the prevalence of dysmenorrhea was 25.1%. In Tang Chaik et al^[9] study, the prevalence of dysmenorrhoea was 84.2%, 4.7% had severe dysmenorrhea. In Cakir M et al^[10] study, the prevalence was 89.5% with severe dysmenorrhea being 10%. Andersch B et al^[11] reported dysmenorrhoea in 72% of women, 15% of cases suffered from severe dysmenorrhea. Patel V et al^[12] reported moderate-to-severe dysmenorrhea in 33.37% of cases. In the study by Balbic et al,^[13] primary dysmenorrhoea was seen in 85% of cases. Dawood MY^[14] documented 50% of young women with dysmenorrhea. Avasarala AK et al^[15] in their study found that the prevalence of dysmenorrhea was 54%. Alaettin UN S et al^[16] reported prevalence of dysmenorrhea as 72.7%.

In the present study, prevalence of dysmenorrhea between the age group of 11 years to 22 years was 58%. Severe and moderate dysmenorrhea constituted 22% and 17% respectively in the present study. This indicates that

dysmenorrhea is still an important public health problem which has negative effect on social environment, work and psychological status.

In the study by Tangchaik et al,^[9] common associated symptom was stomach ache (78%) followed by backache (58.9%), mood change (56.9%), poor concentration (60%) and 45.6% reported school or work absenteeism. In the study by Avasarala AK et al,^[15] sickness absenteeism varied from 28-48%, associated with nausea in 55%, and vomiting in 24%. In the present study, the symptoms associated with dysmenorrhea were nausea and vomiting (78%), poor concentration (32%), irritability (21%), breast tenderness (20%), insomnia (15%) and social withdrawal (12%).

Epidemiological studies have shown a link between dysmenorrhea and several risk factors. Some researchers have documented coffee consumption was an important risk factor for dysmenorrhea. Menstrual bleeding more than seven days was associated dysmenorrhea. Family history of dysmenorrhea had higher prevalence of dysmenorrhea which is consistent with many studies in literature.^[7] Balbi C et al^[13] noted that a higher consumption of fish, eggs, fruit and a lower consumption of wine is correlated with a lower frequency of dysmenorrhea. He observed that early menarche was related to increase in the prevalence and severity of dysmenorrhea. Long and heavy menstrual flow was associated with severity of pain. Chaya Chinda C et al^[8] observed that younger age, nulligravida, lower income, coffee consumption of greater than 1 cup/day, complained of moderate-to-severe dysmenorrhea and had negative attitude towards menstruation. Di Cintio E et al^[17] analysed 106 women with moderate and severe dysmenorrhea observed that women with irregular, long, heavy menstrual flow had dysmenorrhea and there was no distribution with dietary habits. Andersch B et al^[11] showed a significant correlation between dysmenorrhea. Polat et al^[7] found mean age of students suffering with dysmenorrhea was 21 ± 2.13, mean menarche age was 13.3 ± 1.4, menstrual frequency was 32.58 ± 19.8 days.

In the study by Burnett MA et al,^[4] socioeconomic status, nulliparity, earlier age at menarche was not independently associated with primary dysmenorrhea. In the study by Tanchaik et al,^[9] 98.8% of patients with dysmenorrhea got relief with Paracetamol. Vicdan K et al^[18] noted that the average menarcheal age was 13.28 ± 1.09 and menstrual cycles were between 20-35 days, 8.1% had pain during menstruation, 25.6% missed school.^[18] Pullon S et al^[19] analysed 1826 women and noted 50% had dysmenorrhea. Maximum cases occurred between 20-24 years. There was no distribution with body mass. Response was better with oral contraceptive pills.

In the present study, the dietary history in subjects with dysmenorrhea was: consumption of 1 egg/day (78%), fruits 1/day (55%), tea 4 cups/day (68%), coffee 3 cups/day (79%), coke 200 mL/day (15%), chocolate 2 bars/day (32%) and alcohol consumption occasionally in 3% of cases. The cases who consumed egg, fruits and tea had mild dysmenorrhea and cases with intake of coffee three times a day had moderate-to-severe dysmenorrhea. Dysmenorrhea beyond 17 years was seen in 54% of cases and 46% of cases occurred less than 17 years of age. Dysmenorrhea was seen in 5% of tribal cases, 48% were from rural areas and 47% from urban areas. 58% cases were from low socioeconomic group. 62% belonged to nuclear family. 32% were underweight, 20% were overweight

and 48% were of normal weight. Severity of dysmenorrhea was not affected by weight.

59% of cases attained menarche after reaching 12 years of age and 41% attained below 12 years. Irregular menstruation was seen in 38% of cases, excessive menstruation in 28% and normal menstruation in 34% of cases. Positive family history was seen in 35% of cases. 92% of cases had dysmenorrhea during menstruation, 39% had taken therapy.

93% cases adopted more than one method of therapy, they being, application of heat, abdominal massage and intake of anti-inflammatory drugs (NSAIDS). 10% of cases did exercise or yoga. 80% of cases applied either heat or did abdominal massage with or without oil and these cases mainly suffered with grade 1 dysmenorrhea. Cases with severe dysmenorrhea who did not respond to NSAIDS were put on oral contraceptives with good response.

CONCLUSION

Dysmenorrhea in young women is a major problem and needs to be effectively managed. In the present study, prevalence of dysmenorrhea was 58% and 17% suffered from severe dysmenorrhea. Social withdrawal was seen in 12% of cases. 58% were from low socioeconomic group, 32% were underweight and 59% attained menarche after 12 years of age. Family history of dysmenorrhea was seen in 35% of the cases. The subjects who consumed egg, fruits and tea everyday had mild dysmenorrhea and cases with intake of coffee three times a day had moderate-to-severe dysmenorrhea. Majority of cases applied heat, abdominal massage with oil and took Paracetamol as a treatment for dysmenorrhea. Severe dysmenorrhea was controlled by intake of oral contraceptives.

REFERENCES

- [1] Osayande AS, Mehulic S. Diagnosis and initial management of dysmenorrhea. *American family Physician* 2014;89(5):341-6.
- [2] Janssen EB, Rijkers AC, Hoppenbrouwers K, et al. Prevalence of endometriosis diagnosed by laparoscopy in adolescents with dysmenorrhea or chronic pelvic pain: a systemic review. *Human Reproduction Update* 2013;19(5):570-82.
- [3] French L. Dysmenorrhea in adolescents: diagnosis and treatment. *Pediatric Drugs* 2008;10(1):1-7.
- [4] Burnett MA, Antao V, Black A, et al. Prevalence of primary dysmenorrhea in Canada. *J Obstet Gynaecol Can* 2005;27(8):765-70.
- [5] Pitts MK, Ferns JA, Smith AM, et al. Prevalence and correlates of three types of pelvic pain in a nationally representative sample of Australian women. *Med J Aust* 2008;189(3):138-43.
- [6] Nur N, Sumer H. Prevalence of dysmenorrhea and related risk factors in adolescents. *Surekli Tip Egitimi Dergisi* 2008;7:27-30.
- [7] Polat A, Celik H, Gurates B, et al. Prevalence of primary dysmenorrhea in young adult female University students. *Arch Gynecol Obstet* 2009;279(4):527-32.
- [8] Chayachinda C, Rattanachaiyanont M, Phattharayuttawat S, et al. Premenstrual syndrome in Thai Nurses. *J Psychosom Obstet Gynaecol* 2008;29(3):199-205.
- [9] Tangchai K, Titapant V, Boriboonhirunsarn D. Dysmenorrhea in Thai adolescents: prevalence, impact and knowledge of treatment. *J Med Assoc Thai* 2004;87(Suppl 3):S69-73.
- [10] Cakir M, Mungan I, Karakas T, et al. Menstrual pattern and common menstrual disorder among University students in Turkey. *Pediatr Int* 2007;49(6):938-42.
- [11] Andersch B, Milsom I. An epidemiologic study of young women with dysmenorrhea. *Am J Obstet Gynecol* 1982;144(6):655-60.
- [12] Patel V, Tanksale V, Sahasrabhojane M, et al. The burden and determinants of dysmenorrhea: a population-based survey of 2262 Women in Goa, India. *BJOG* 2006;113(4):453-63.
- [13] Balbi C, Musone R, Menditto A, et al. Influence of menstrual factors and dietary habits on menstrual pain in adolescence age. *Eur J Obstet Gynecol Reprod Biol* 2000;91(2):143-8.
- [14] Dawood MY. Dysmenorrhea. *Clin Obstet Gynecol* 1990;33(1):168-78.
- [15] Avasarala AK, Panchangam S. Dysmenorrhea in different settings: are the rural and urban adolescent girls perceiving and managing the dysmenorrhea problem differently? *Indian J Community Med* 2008;33(4):246-9.
- [16] Unsal A, Ayranci U, Tozan M, et al. Prevalence of dysmenorrhea and its effect on quality of life among a group of female University students. *Ups J Med Sci* 2010;115(2):138-45.
- [17] Di Cintio E, Parazzini F, Tozzi L, et al. Dietary habits, reproductive and menstrual factors and risk of dysmenorrhea. *Eur J Epidemiol* 1977;13(8):925-30.
- [18] Vicdan K, Kukner S, Dabakoglu T, et al. Demographic and Epidemiological features of female adolescents in Turkey. *J Adolesc Health* 1996;18(1):54-8.
- [19] Pullon S, Reinken J, Sparrow M. Prevalence of dysmenorrhea in Wellington women. *N Z Med J* 1988;101(839):52-4.