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PROSPECTIVE STUDY ON PREVALENCE OF RISK FACTORS AND TREATMENT OF MENSTRUAL ABNORMALITIES IN WOMEN IN TERTIARY CARE HOSPITALS OF KHAMMAM REGION

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ABSTRACT

Menstrual disorders frequently affect the quality of life of adolescents and young adult women, especially those who suffer dysmenorrhoea and heavy menstruation. This study was a prospective observational study conducted over a period of 6 months from October 2020 to March 2021 in Tertiary care hospitals of Khammam region. Risk factors and prescription pattern to treat menstrual abnormalities were studied. From the study it was reported that the most prevalent age group was 21-30 years. Lifestyle Factors, Pelvic Inflammatory Disease, PCOS were the major risk factors of menstrual disorder and Tiredness, Pain in abdomen, Acne, Light menstrual flow were the major reported complaints in our study. Current treatment strategies include Hormonal therapy (Medroxy progesterone acetate, Norethisterone), Analgesic (Dicyclomine+ Mefenamic acid) and Vitamin supplements (154). Therefore, It is recommended that early psychological and gynecological counseling should be given to the women to prevent future complications.

Keywords: Dysmenorrhoea, Drug Utilization, Menstruation, Medroxy progesterone acetate, PCOS

INTRODUCTION

Menstrual dysfunction is a common complaint among women. Severe illness is rare and menstrual cycles improve with age **[1]**. A menstrual disorder is characterized as any abnormal condition affecting a woman's menstrual cycle. There are many different types of menstrual disorders that vary depending on the signs and symptoms, including pain during menstruation, heavy bleeding, or no menstruation. Normal variations in menstrual patterns can occur, but in general menstrual disorders can also include periods that occur before 21 days apart, are more than 3 months apart, or last more than 10 days.

There are several types of menstrual disorders, including dysmenorrhea, premenstrual symptoms, menorrhagia, polymenorrhea, abnormal vaginal bleeding, amenorrhea, oligomenorrhea, and irregular menstruation **[2, 3]**.

Changes in the menstrual cycle are mainly caused by immaturity of the hypothalamus-pituitary-ovarian (HPO) axis and early diagnosis and management are required to minimize the possibility of complications regarding future reproductive capacity **[4, 5]**. Disorders were once considered more of a nuisance problem, but it is now widely recognized that they have a serious impact on society. Ovulation disorders are called anovulation and oligoovulation.

Stress can be an important factor or cause of menstrual irregularities and an association between stress and various menstrual irregularities has been documented, including menorrhagia, oligomenorrhea, dysmenorrhea and premenstrual syndrome **[6-8]**.

Menstrual patterns can be influenced by several factors, including age, ethnicity, family history, smoking, physical activity, and eating habits **[9]**.

There are many causes of menstrual disorders, including uterine fibroids, hormonal imbalances, bleeding disorders, cancer, sexually transmitted infections, polycystic ovary syndrome and genetics **[10-12]**. Stress and lifestyle factors often affect menstruation, including weight changes, diet, exercise changes, travel and illness **[13-17]**. Hyper prolactinemia can also cause menstrual disturbances.

In most cases, no underlying medical cause is identified. Despite this, the symptoms can be extremely distressing and effective treatments are available. The choice of treatment depends on the symptoms, as well as the possible known side effects and risks of the drug **[18]**.

The aim of this study is to evaluate the prevalence of risk factors and drug use in menstrual disorders.

METHODOLOGY

This study was a prospective observational study conducted over a 6-month period from October 2020 to March 2021, in tertiary care hospitals in the Khammam region with a sample of 300 cases. Inclusion criteria include women between the ages of 13 and 50, women with a irregular menstrual cycle, women who have experienced menarche for more than 2 years and who wish to participate in the study. The exclusion criteria include women who are over 50 or have reached menopause, pregnant women and women who are unwilling to participate. Patients were prospectively selected for study using a simple randomized technique. The data was collected from the women after obtaining their written consent. In addition, patients are classified according to their age group, social status. Patients were then classified according to cycle length disorder. Complications and risk factors for menstrual abnormalities have been identified.

Condition was assessed by looking at the patient's medical history and personal interview. Clinical outcomes include raising awareness of healthy lifestyle changes for a better quality of life and the use of appropriate medications to prevent abnormalities. The statistical analysis will be carried out by Microsoft Office (MS-Word, MS-Excel). The descriptive analysis of the data was carried out as a percentage of the demographic variables.

RESULTS

An over-all of 300 participants were included in the study who met our inclusion criteria.

Age group

The cases were categorized according to age. 75 (25%) participants were in the age group of 13-20 years. Majority of the participates 157 (52.33%) were in 21-30 years. 50 (16.66%) participates were in the age group of 31-40 years and the rest of the participants 18 (6%) were in the age group of 41-55 years **(Figure 1)**.

Marital status

The cases were categorized into married and unmarried women. Among them 99(33%) participates were unmarried and the remaining participates 201(67%) were married women **(Figure 2)**.

Parity

Participants having menstrual disorders were categorized according to parity. The number of participants who were married having 1child were 39 (13%), 2 child were 101(33.6%), 3 Child were 9(3%), who were married not conceived were 100(33.3%) and who are not married were 100(33.3%) **(Figure 3)**.

Family History

Based on the family history the number of participants who are not related to family history are 286(95.3%), who are related to

family history of menstrual disorders was seen in 14 cases (4.7%).

Gynecologic characteristics

Based on gynecologic characteristics the number of participants who are having dysmenorrhea are 73(24.33%), menorrhagia are 52(17.33%), amenorrhea are 47(15.66%), oligomenorrhea are 80(26.66%), polymenorrhea are 48 (16%) **(Figure 4)**.

Variables and their association with menstrual disorders

Table 1 shows the relationship between the independent variables like age, marital status and parity on prevalence of menstrual disorders. Dysmenorrhea is high among 13-20 age group women and women. Oligomenorrhea is high in age group of 21- 40 age group and in married women and women with two childeren.

Risk Factors

Based on risk factors the number of participants who were having lifestyle factors are 72(24 %) followed by pelvic inflammatory disease are 57(19%), stress are 37(12.33%), uterine polyps/fibroids are 24(8 %), endometriosis are 29(9.6), adenomyosis are 8(2.6%) respectively **(Table 2)**.

Chief complaints

According to chief complaints the number of participants who are having tiredness are 89(29.6%), pain in abdomen are 60(20%), acne are 43(14.3%), light menstrual flow are 40(13.3%), hirsutism are 12(4%), hair loss are 15(5%), pelvic pain are 23(8.6%), infertility are 18(6%), heavy menstrual flow are 6 (2%), pruritus vulvae are 26(6.5%), headache are 17(5.6%), leukorrhea are 9(3%), fever are 2(0.6%), lower backache are 31(10.3%), vaginal irritation are 2(0.6%), burning sensation are 6(2%), weakness are 1 (0.3%) **(Table 3)**.

Treatment

A total of 700 drugs were prescribed to the patients. Drug s that were commonly given were reported in the study. Based on the treatment the number of participants who are using category of NSAID drugs are 38 (5.428%), analgesic drugs are 91(13%), muscle relaxant drugs are 24(3.428%), hormonal therapy drugs are 155(22.142%), oral contraceptives drugs are 35(5%), vitamin supplements drugs are 154(22%), antibiotic drugs are 75(10.714%), gonadotropin-releasing hormone agonist drugs are 36(5.142%), thyroid hormone drugs are 13(1.857%), anti-acne drugs are 6(0.857%) **(Table 4)**.

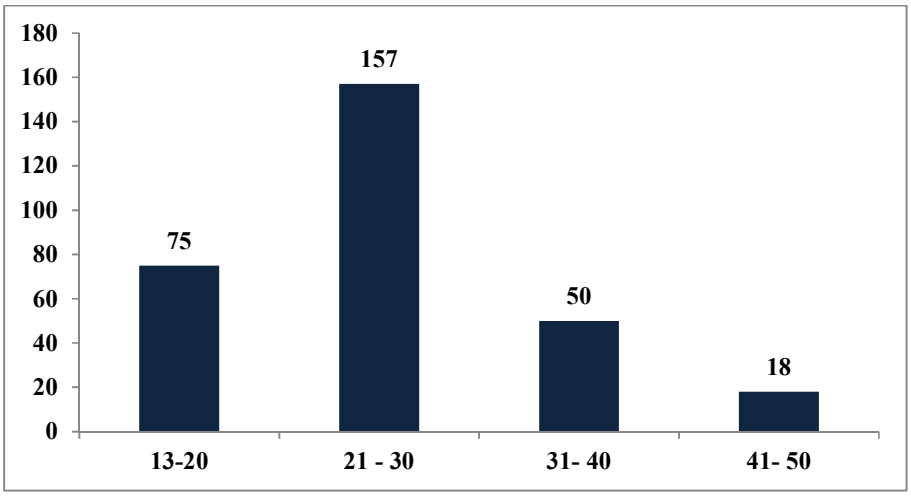

Figure 1: Age wise distribution of participants

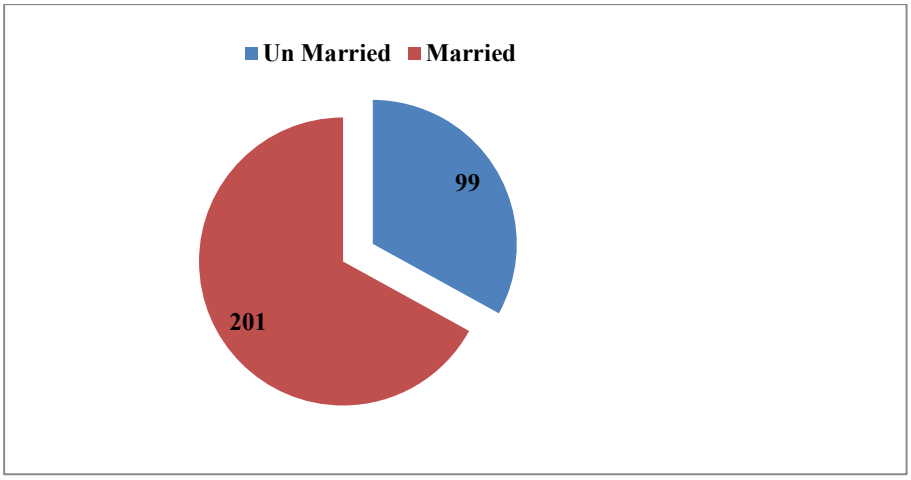

Figure 2: Marital status wise distribution of participants

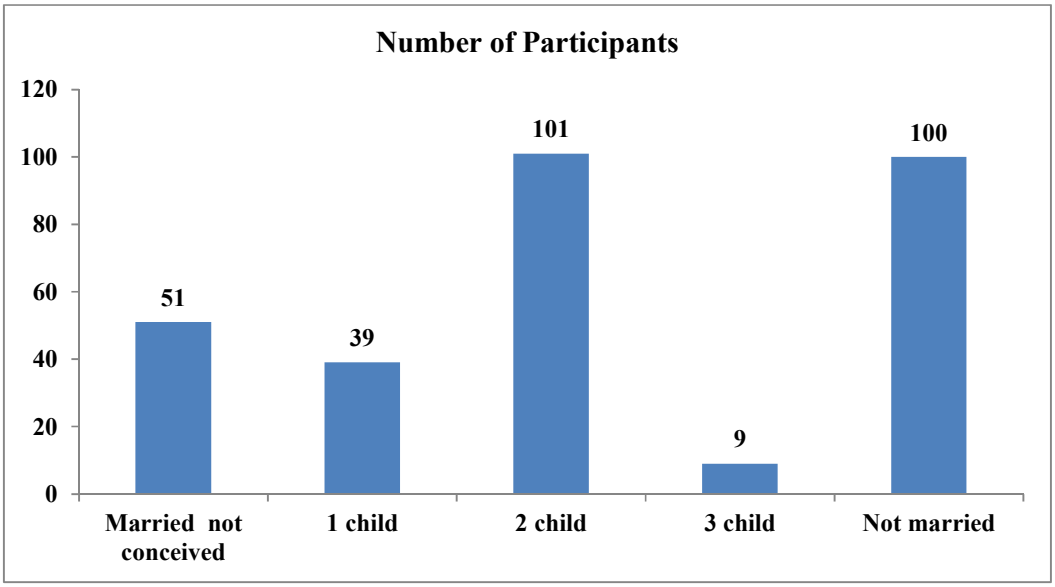

Figure 3: Parity wise distribution of participants

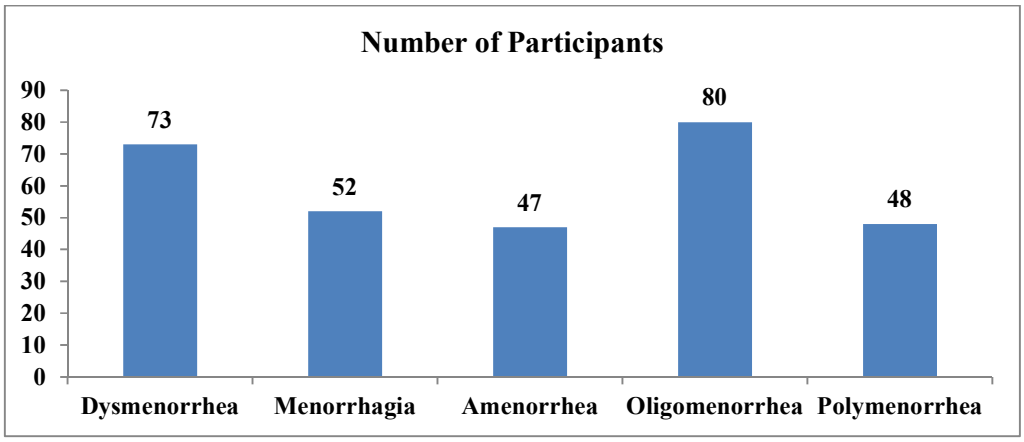

Figure 4: Gynecologic characteristics wise distribution of participants

Table 1: Variables and their association with menstrual disorders

Age group	Dysmenorrhea	Menorrhagia	Amenorrhea	Oligomenorrhea	Polymenorrhea
13- 20	31	12	7	14	11
21 - 30	32	28	25	46	26
31- 40	7	9	5	18	11
41- 55	3	8	5	2	0
Marital status					
Un Married	31	11	17	26	14
Married	42	41	30	54	34
Parity					
Married but not conceived	9	9	14	14	6
1 child	8	7	3	12	9
2 child	24	22	13	25	17
3 child	1	3	0	3	2

Table 2: Risk Factors wise distribution of participants

Risk Factors	Number of Participants	Percentage
Lifestyle Factors	72	24
Pelvic Inflammatory Disease	57	19
PCOS	43	14.33
Stress	37	12.33
Endometriosis	29	9.66
Uterine Polyps / Fibroids	24	8
hypothyroidism	13	4.33
Adenomyosis	8	2.66
hyperthyroidism	5	1.66
Adnexal cyst	5	1.66
Diabetes type1	4	1.33
Pituitary adenoma	3	1
Ovarian cyst	3	1
Obesity	1	0.33

Table 3: Chief complaints wise distribution of participants

S no	Chief Complaints	Number of Participants	Percentage
1	Tiredness	89	29.6
2	Pain in abdomen	60	20
3	Acne	43	14.3
4	Light menstrual flow	40	13.3
14	Lower backache	31	10.3
10	Pruritus vulvae	26	8.6
7	Pelvic pain	23	7.6
8	Infertility	18	6
11	Headache	17	5.6
6	Hair loss	15	5
5	Hirsutism	12	4

12	Leukorrhea	9	3
9	Heavy menstrual flow	6	2
16	Burning sensation	6	2
13	Fever	2	0.6
15	Vaginal irritation	2	0.6
17	Weakness	1	0.3

Table 4: Drug Utilization in menstrual disorders

Category	Total	Percentage
NSAID	38	5.428
Analgesic	91	13
Muscle relaxant	24	3.428
Hormonal therapy	155	22.142
Oral contraceptives	35	5
Coenzyme Q10	17	2.428
Antiandrogen	12	1.714
Vitamin supplements	154	22
Antibiotic	75	10.714
GnRH agonist	36	5.142
Aromatase inhibitor	6	0.857
hMG	8	1.142
Anti-thyroid	5	0.714
Thyroid horomone	13	1.857
Anti-acne	6	0.857
Anti-diabetic	4	0.571
Nutritional supplement	7	1

DISCUSSION

Menstrual dysfunction has a major impact on women's health and quality of life. It leads to serious complications, the main one being infertility. It would affect the psychological condition of the woman and her family.

In our study, the results showed that a high percentage of women who experienced menstrual dysfunction were in the 21-30 age range. Therefore, the estimated prevailing average age was 25 years **[19]**.

In our study, married women had menstrual problems. This can be due to stress and a lack of time to manage lifestyle. Some research suggests that marriage can affect a woman's menstrual cycle and increase menstrual symptoms, such as cramps and headaches **[20]**.

In our study, most of the women had no family history but suffered from menstrual problems. This could be due to social change in eating habits. Therefore, eating habits must be properly controlled.

Most of the women in our study reported dysmenorrhea and oligomenorrhea. Pain and cramps are mainly observed during menstruation. Dysmenorrhea means pain that lasts 12 to 72 hours, symptoms such as nausea and vomiting, fatigue and even diarrhea are common. Irregular and inconsistent menstrual blood flow was reported in our study.

The correlation with independent variables and menstrual disorders has showed that dysmenorrhea was high in age 13-20 and oligomenorrhea was more in married and women and women with two children.

Parity was also considered a contributing factor, in our study most of the women who had 2 children suffered from menstrual disturbances which may be due to hormonal changes after breastfeeding.

Lifestyle factors, pelvic inflammatory disease and polycystic ovary syndrome are the main risk factors reported in our study **[21]**.

Fatigue, abdominal pain, acne, light menstrual flow were the main complaints reported in our study.

Ibuprofen (NSAID 38), dicyclomine + mefenamic acid and tranexamic acid + mefenamic acid (analgesic 91), medroxyprogesterone acetate (hormone therapy 155), vitamin supplements (154), antibiotic (75), ethinyl estradiol (relaxing oral contraceptives (35), camylophen 24), Ubicarenone (coenzyme Q10 17), Thyroid Horomone (13) were prescription drugs for the treatment of menstrual dysfunctions. Mefenamic acid is a non-steroidal anti-inflammatory drug that works by inhibiting prostaglandin synthetase. It is effective for dysmenorrhea and can also help reduce menstrual loss by up to 20%. Tranexamic acid is an effective antifibrinolytic to reduce menstrual loss by up to 50%. Levonorgestrel is effective for menorrhagia and dysmenorrhea. Natural remedies such as eating nutritious food, getting enough sleep, exercising regularly and maintaining a good lifestyle reduce the prevalence of menstrual disorders.

CONCLUSION

In summary, menstrual dysfunction is mainly observed in the age group between 21 and 30 years. Pelvic inflammatory disease, PCOS are the main risk factors for menstrual abnormalities. Married women were found to be at high risk, as it would affect fertility results. Married women who had two children were also at high risk due to stressful lives and hormonal imbalances. Adolescent menstrual dysfunction is extremely common during the first few years after menarche. Irregular menstruation is an important indicator of current and potential health problems. Therefore, it is necessary to evaluate the factors associated with irregular menstruation to determine the appropriate prevention and treatment strategies that are safe to use.

Conflict of interest:

None declared

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