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Stress in Women with Abnormal Uterine Bleeding – In South Kerala

Anjitha Santhosh[1], Aparna Anil[1], Dr. Drishya L[2*], Prof .Dr. Shaiju S Dharan[3]

1- *Pharm D Interns, Department Of Pharmacy Practice, Ezhuthachan College of Pharmaceutical Sciences, Marayamuttom, Trivandrum, Kerala, India.*

2- *Assistant Professor, Department of Pharmacy Practice, Ezhuthachan College of Pharmaceutical Sciences, Marayamuttom, Trivandrum, Kerala, India.*

3- *Principal, Ezhuthachan College of Pharmaceutical Sciences, Marayamuttom, Trivandrum, Kerala, India.*

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ABSTRACT

Background: Abnormal Uterine Bleeding (AUB) is one of the gynaecological problem that significantly affects the women's quality of life. Stress can be considered as a psychological factor that alter the women hormone levels. Women are twice more likely to suffer from stress as compared to men.Increased levels of cortisol during stress may affect the reproductive cycle that causes imbalance in the reproductive hormones. This may cause disturbance in the menstrual cycle.This study aims to assess the association of stress in women with abnormal uterine bleeding.

Materials & Methods: A prospective observational study was done in gynaecology department of tertiary care hospital in Trivandrum for 6months with premenopausal women with abnormal uterine bleeding (AUB).

Results: In this study, the pattern is considered around 53% are mennorhagia and 34% are oligomennorhea. As the stress score is considered 49% are the opinion of fairly often and 34% are sometimes.To establish the association between stress score and pattern of disease a statistical test call chi square test is administered and it is found that there is no association between the pattern of disease and stress score. The result is statistically significant chi square value is 20.87 and P value is 0.052 which is greater than 0.05. Study showsthere is no association of types of menstrual patterns associated stress in women with AUB.

Conclusion: From the study, Abnormal uterine bleeding has no strong relation with psychological factors.Hormonal imbalance has no deep- rooted relation with psychological stress, which can also be contributing factor for inducing AUB.Thus,stress has no relation with AUB (Abnormal Uterine Bleeding).

Keywords: Abnormal uterine bleeding, Stress, Menstrual patterns.

I. INTRODUCTION

One prevalent gynecological issue is abnormal uterine bleeding (AUB). This represents 20% of the female patients that visit the outpatient gynecology department[1]. Primarily affect women in the reproductive age range of 15 to 55 years old[2]. One of the major gynecological conditions, AUB is characterized by abnormal uterine bleeding without an organic genital tract disease or a clearly identifiable extragenital cause[3]. Women's health and quality of life are negatively impacted because of blood loss, pain, poor sexual health, infertility, and higher medical expenses[1]. Schroeder coined the phrase "dysfunctional uterine bleeding" in 1914[5].The International Federation of Gynecology and Obstetrics (FIGO) has established a definition for irregular uterine bleeding that includes any bleeding from the uterus corpus that is not normal in terms of regularity, amount, frequency, or duration; pregnancy is particularly excluded[1]. The main cause of abnormal uterine bleeding is hormonal imbalance, which is brought on by a drop in serum progesterone levels, which in turn causes a reduction in prostaglandin synthesis, which in turn causes the uterine bleed vessels to vasoconstriction[5]. Abnormal uterine bleeding can also result from deviations from normal endometrial physiology or anatomy[1].The International Federation of Gynecology and Obstetrics has complied the causes of abnormal uterine bleeding in an acronym, PALM-COEIN.

Stress is becoming more common term in our world. Women are twice more likely to suffer from stress as compared to men[1]. Stress is an important factor that negatively influences woman's hormone levels.Increased levels of cortisol during stress may affect the reproductive

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cycle that causes imbalance in the reproductive hormones. This may cause disturbance in the menstrual cycle[3]. This imbalance in the reproductive hormones causes a disturbance in the usual menstrual cycle can lead to abnormal uterine bleeding[3]. Stress stimulates the HPA (hypothalamic -Pituitary- Axis) resulting in the production of the hormone cortisol, that may causes hormonal imbalances[6]. Stress often creates an irregular menstrual cycle. It happens because stress as a stimulus to the nervous system is transmitted to the central nervous system via the autonomic nerves forwarded to the hormonal glands to secrete neurohormonal secretions to the pituitary through the frontal system secrete gonadotropins in the form of FSH. Further the LH hormones are influenced by RH which is channelled from the hypothalamus to the pituitary. RH release is strongly influenced by the feedback mechanism of estrogen to the hypothalamus so that it will affect the menstrual process[6].

II. METHODOLOGY

The study was performed in the Department of Gynecology in a Tertiary Care Hospital in Thiruvananthapuram, Kerala, India between November 2023 and March 2024. The sample size was 77, with consecutive sampling technique were chosen.Since the sampling technique provides a choronological view of data, making it useful for trend analysis and pattern recoginitionCriterias which includes**:** All premenopausal women with AUB, age between 15-55 years. Unwilling patients, suspected pelvic infection**,**known case of thyroid disorder, women on oral contraceptives/ Intra uterine device (IUD), pregnant women, known cases of genital cancers, autoimmune disorders, liver disorders or coagulopathy, history of childbirth within 1 year, abortion history within 3 months, women who are on drugs like antiepileptic, antipsychotic or hormonal replacement therapy were excluded from this study. The primary outcome was association of stress in Abnormal Uterine Bleeding and secondary outcome was to assess the menstrual patterns in women with stress in abnormal uterine bleeding. Patient demographic and clinical characteristic details were obtained through patient medical records, and questionnaire were also included.

The data obtained from the study were statistically analyzed with the help of the software SPSS (version 22.0). Statistical tests such as chi-square test and one-way anova were used for the analysis.

III. RESULT

Distribution of pattern and stress score

VARIABLE	LEVEL	NUMBER	TOTAL	PERCENTAGE
PATTERN	Amennorhea	2	74	2.7
	Dysmennorhea	4	74	5.4
	Mennorhagia	39	74	52.7
	Oligomennorhea	25	74	33.8
	Polymennorhea	4	74	5.4
STRESS SCORE	Almost Never	3	74	4.1
	Sometimes	25	74	33.8
	Fairly Often	36	74	48.6
	Very Often	10	74	13.5

Table 1: Distribution of pattern and stress score

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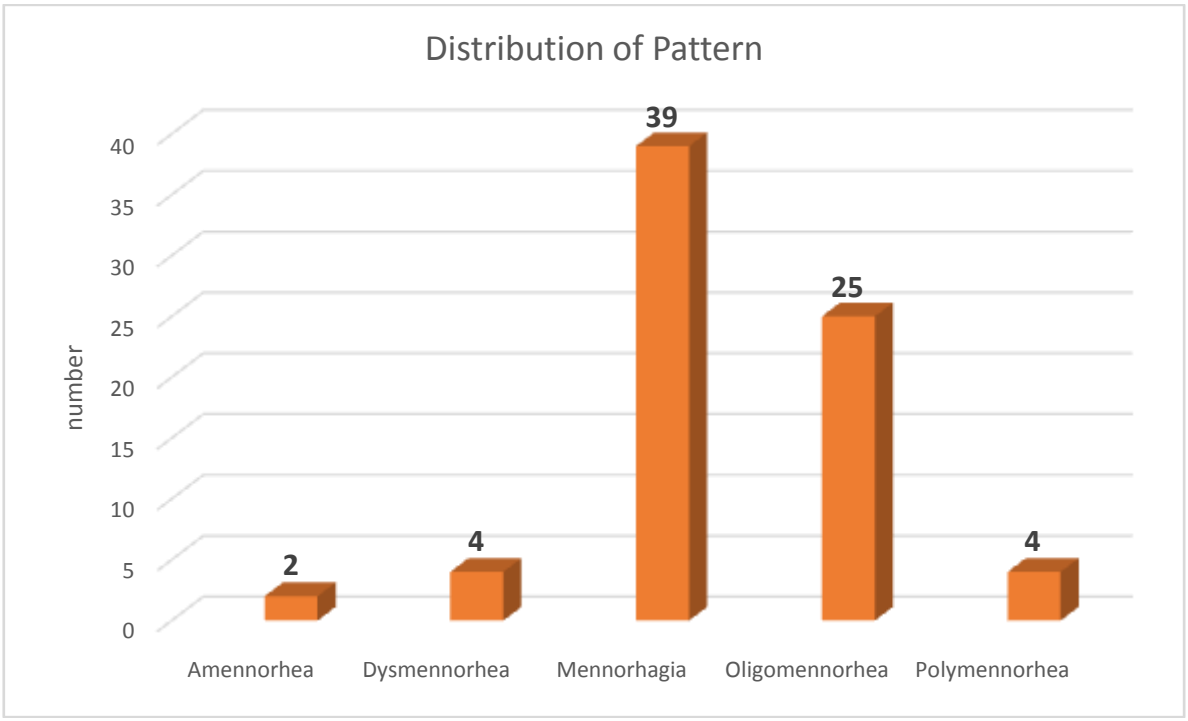

Fig 1 (a): Graphical representation of distribution of pattern

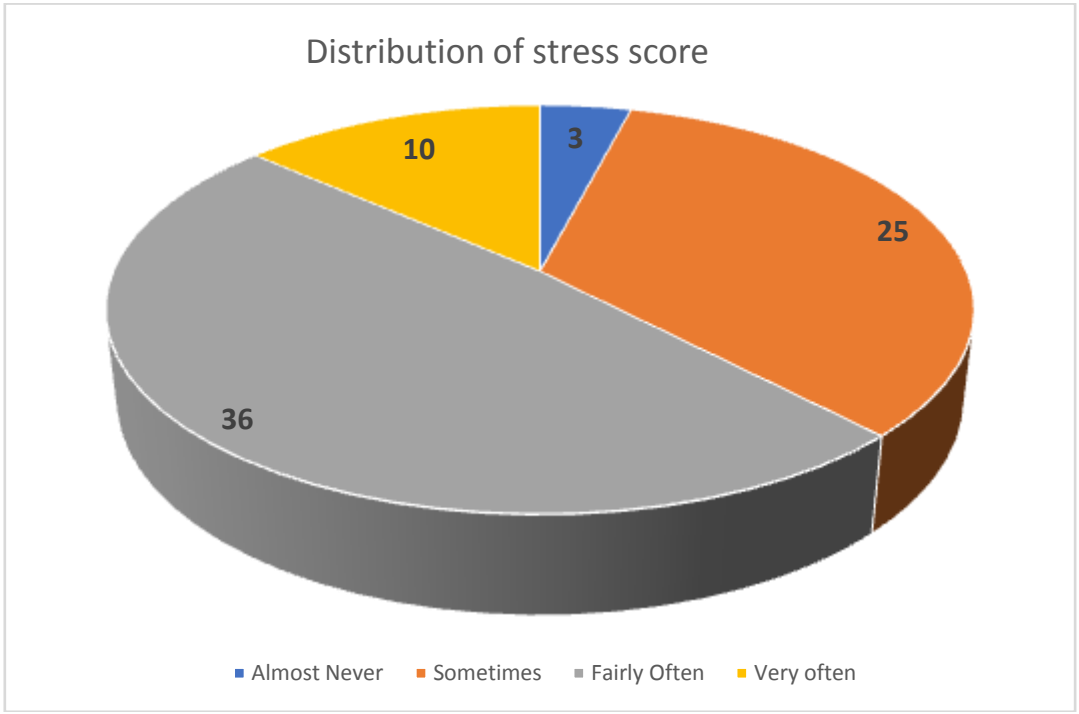

Fig 1(b): Graphical representation of distribution of stress score

From the above table, the pattern is considered around 53% are mennorhagia and 34% are oligomennorhea. As the stress score is considered 49% are the opinion of fairly often and 34% are sometimes.

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2.Contingency Tables

a. Association of stress in women with Abnormal Uterine Bleeding

Stress score	N	Mean	SD
Almost Never	3	24.667	1.528
Sometimes	25	36.400	12.247
Fairly Often	36	36.167	9.709
Very often	10	31.000	8.206

Table 2 (a): Association of stress in women with AUB

Table 2(a) describes p value calculated with stress score, number of patients with very often stress was 10, fairly often 36, sometimes 25 and never was 3. From this 74 patients 36 patients had stress related Abnormal Uterine Bleeding (AUB).

To establish the association between stress score and pattern of disease a statistical test call chi square test is administered and it is found that there is no association between the pattern of disease and stress score. The result is statistically significant chi square value is 20.87 and P value is 0.052 which is greater than 0.05.

b. Types of menstrual patterns associated stress in women with Abnormal Uterine Bleeding

PATTERN	STRESS SCORE				
	Almost Never	Sometimes	Fairly often	Very Often	Total
Amennorhea	0	1	1	0	2
Dysmennorhea	1	1	1	1	4
Mennorhagia	1	9	24	5	39
Oligomennorhea	0	14	8	3	25
Polymennorhea	1	0	2	1	4
Total	3	25	36	10	74

Table 2 (b): Association of types of menstrual patterns associated stress in women with AUB

From Table 2(b): To compare the stress score with age, the mean age was tested between the stress score by using a statistical test called one-way Anova and from the result it is found that the multiple comparison is not statistically significant the f value is 1.79 and p value is 0.156 which is greater than 0.05.

IV. DISCUSSION

This study was conducted in the Department of Obstetrics and Gynaecology, NIMS Medicity, Neyyatinkara. It comprises 74 Abnormal Uterine Bleeding patients. The study conducted by Lakshminarayanan Preethi et al. shows that Stress increases noradrenaline and adrenaline production resulting in increased concentration in the brain. The hypothalamic- pituitary- adrenal axis is affected by many stressful occasions, which cause discharge of ACTH from the anterior pituitary. The rise in ACTH can cause enhances the discharge and biosynthesis of glucocorticoid hormones from adrenal cortex. Increased prolactin levels also decrease GnRH release and suppress normal follicular steroidogenesis. The lack of LH can result in an anovulatory and short cycle, amenorrhea, prolonged cycle, and delayed ovulation, which marks the beginning of AUB. These increased workloads have induced stress and have impacted women in many ways, including compromised mental health, obesity, etc[(1)].

In our study stress has no relation in Abnormal Uterine Bleeding and also no association in patterns of AUB. Number of patients with very often stress was 10, fairly often 36, sometimes 25 and never was 3. From this 74 patients 36 patients had stress related Abnormal Uterine Bleeding (AUB). And P value was 0.052 instead of 0.05.
Also there is no association of types of menstrual patterns associated stress in women with AUB.

V. CONCLUSION

The purpose of our study was concluded to be that stress is a major contributing factor for irregular menstruation. But in our study, results clearly shows the negative impact of stress in women with abnormal uterine bleeding

Our study survey includes patient demographic details, clinical characteristics,

bleeding patterns, medical records, questionarries, was mandatory for determining the current status and shaping the quality of study.

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