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A Case Study in Food Cravings in Premenstrual Syndrome Among Females 18-25 Years of Age Group

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Abstract: The majority of women's often experience premenstrual symptoms. It was found that the majority of women's are of reproductive age. The study, which includes female respondents between the ages of 18 and 25, is being carried out at the Sree Ramakrishna Medical College of Naturopathy and Yogic Sciences and Hospital in Kulasekharam, Tamil Nadu, India. Verbal consent was acquired following an explanation of the study's objectives. There were thirty responders in this study. Thirty questions made up the questionnaire. The study then excluded female volunteers who were unwilling or uncooperative. The absence of counseling services and the respondents' consumption of wholesome foods and rest were the study's findings. These areas should be the focus of future treatment to enhance young girls' overall health and well-being.

Keywords: *Pre Menstrual Syndrome, Food Cravings, Appetite, Menstrual Cycle, Abdominal Discomfort, Dietary Patterns.*

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I. INTRODUCTION

PMS is a common condition that affects many people. Among its many physical and emotional symptoms, food cravings typically involve a strong desire for specific types of foods, most commonly chocolate, chips, baked foods, etc. Hormonal imbalances, particularly in estrogen and progesterone levels, can influence mood and appetite, which may drive the urge for foods that temporarily boost serotonin production and improve mood. While occasional cravings are normal, excessive or compulsive eating during PMS can cause feelings of guilt, bloating, or weight gain, and in some cases, may be linked to conditions like premenstrual dysphoric disorder (PMDD).

II. PATHOPHYSIOLOGY

Premenstrual pattern(PMS) is characterized as a condition that presents emotional, physical, and behavioral symptoms, which consolidate during the luteal phase of the menstrual cycle and dwindle by the conclusion of period. According to its description, a symptom-free period must live following period and after ovulation. Premenstrual dysphoric complaint represents the more severe, generally cerebral aspect of the PMS diagnosis, also known as premenstrual pressure complaint. Symptoms correspond to Behavioral symptoms: fatigue, wakefulness, dizziness, differences in sexual interest, food cravings or inordinate eating. Cerebral symptoms: perversity, truthfulness, low mood, crying and fearfulness, anxiety, pressure, mood oscillations, lack of

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focus, confusion, obliviousness, restlessness, passions of loneliness, reduced tone-regard, pressure. Physical symptoms headaches, bone tenderheartedness and swelling, back pain, abdominal discomfort and bloating, weight gain, swelling in the extremities, fluid retention, nausea, muscle and common discomfort. PMS is distributed into two types; Core (or typical) PMD is linked to robotic ovulatory menstrual cycles and can be further divided into primarily physical symptoms, primarily cerebral, or a combination of both. Women passing generally cerebral or mixed symptoms may also meet the criteria for premenstrual dysphoric complaint. Variants of PMD include more intricate characteristics, classified into the following four orders: premenstrual worsening of a being condition; PMS being without period; progestin- convinced PMS; and PMS associated with an ovulatory ovarian exertion. The occurrence of premenstrual symptoms varies globally, ranging from 48% to 90%, with approximately 20% of women experiencing symptoms severe enough to impact their quality of life. Up to 80% of women report experiencing one or more physical, psychological, or behavioral symptoms during the luteal phase of their menstrual cycle, yet they do not face significant disruptions in their daily activities. The overall prevalence of PMS is estimated at 47.8%. The lowest prevalence was observed in France at 12%, while the highest was reported in Iran at 98%. PMS has a notable effect on women's quality of life, as well as their economic and social performance. Additionally, another study indicates that around 23-31% of women of reproductive age experience PMS to a degree that impacts their daily lives.

III. ETIOLOGY

There is a poor understanding of the etiology of premenstrual disorders. Several studies suggest that cyclical changes in estrogen and progesterone levels trigger the symptoms. Postmenopausal women who had previously been diagnosed with PMS had recurrent psychiatric and physical symptoms when they received cyclical progestin therapy. Furthermore, the suppression of estrogen with gonadotropin-releasing hormone analogues has been shown to significantly improve PMS symptoms. Changes in mood may be attributable to the effect estrogen and progesterone have on the serotonin, γ-amino butyric acid, and dopamine systems. These can also alter the renin-angiotensin aldosterone system, which could explain some of the bloating and swelling that occur during the luteal phase. Sex hormone levels alone cannot fully explain premenstrual disorders. Studies show that women diagnosed with a premenstrual disorder do not have higher levels of estrogen or progesterone than the general population, and accepted explanations as to why some women could be more sensitive to fluctuations in these sex hormones are lacking. Monozygotic twin studies suggest a possible genetic component to premenstrual disorders; however, no genes have been identified.

Sex steroids readily traverse the blood-brain barrier, and their receptors are prevalent in various regions of the brain, including the amygdala and hypothalamus.. It has been proposed that progesterone is converted in the brain to allopregnanolone and prednisolone, which activate the gamma-aminobutyric acid (GABA) inhibitory neurotransmitter system. GABA receptors are linked to changes in mood, cognition, and affect. At elevated concentrations, allopregnanolone and prednisolone exhibit anxiolytic, sedative, and anesthetic properties; however, at lower concentrations, allopregnanolone may induce anxiety, negative mood, and aggression. Following exposure to high concentrations, GABA receptors become less responsive to allopregnanolone, leading to exacerbated symptoms during the luteal phase. Additionally, serotonergic activity in the brain is influenced by estrogen and progesterone. Progesterone elevates monoamine oxidase (MAO) levels, which reduces the availability of 5-hydroxytryptamine (5-HT), resulting in a depressed mood. In contrast, estrogen promotes the breakdown of MAO, thereby increasing the availability of free tryptophan in the brain, which enhances serotonin transport and stimulates 5HT binding sites, yielding an antidepressant effect.

IV. HOW THE FOOD CRAVINGS OCCURS DURING PMS:

Elevated levels of Leptin in the bloodstream are linked to the psychological manifestations of premenstrual syndrome. Typically leptin functions as a satiety hormone, signaling fullness; however, during certain periods, there is an excessive production of leptin, leading to increased leptin resistance and decreased leptin sensitivity, which results in heightened food cravings. Leptin concentrations are notably higher during the preovulatory and luteal phases compared to the follicular phase, with a gradual increase beginning in the follicular phase, peaking during the luteal phase. The formation of the corpus luteum during the luteinization phase may be a contributing factor to the elevated leptin levels, as the corpus luteum has been identified as a source of leptin production in humans. A comparison of ovulatory and an ovulatory cycles reveals that lower leptin concentrations are present during the an ovulatory cycle (characterized by the absence of ovulation and corpus luteum) in contrast to the elevated leptin levels observed during the luteal phase of ovulatory cycles (which include ovulation and corpus luteum formation). The LH surge that occurs during ovulation triggers the production of various inflammatory mediators within the ovarian follicles. Given that leptin is regarded as a pro-inflammatory mediator, the elevated serum leptin levels during the preovulatory and luteal phases may be associated with the inflammatory responses linked to ovulation. Leptin is classified as a proinflammatory cytokine, belonging to the family of long-chain helical cytokines, and shares structural similarities with IL-6, IL-12, IL-15, granulocyte colony-stimulating factor, myostatin M, prolactin, and human growth hormone. Due to its dual role as both a hormone and a cytokine, leptin connects the neuroendocrine system with the immune system.

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V. MATERIALS AND METHOD

The research is being conducted on females between the ages of 18 and 25 years at the Sree Ramakrishna Medical College of Naturopathy and Yogic Sciences and Hospital in Kulasekharam, Tamil Nadu, India. Verbal consent was obtained following an explanation of the study's purpose. This experiment had thirty participants. There are thirty questions in the questionnaire. Participants who declined participation or did not cooperate were excluded from the study.

Table.1 Evaluation of Premenstrual Food Cravings Among Females Age 18 to 25 Years

S. No	CONTENTS	YES (%)	NO (%)
1.	Excess cravings of food before menstruation	100%	0%
2.	Mood swings reduces after getting craved food	80.00 %	20.00%
3.	Spend more times for thinking about foods	53.33 %	46.66%
4.	Appetite control by taking the craved food	80.00 %	20.00%
5.	Craved by seeing or hearing the particular foods	83.33 %	16.66 %
6.	Cravings appear by thinking of food	86.66%	13.33%
7.	More cravings on sweets	73.33 %	26.66 %
8.	More cravings on salty foods	16.66 %	83.33 %
9.	Regular consumption of nuts and seeds	30.00 %	70.00 %
10.	Made effort to eat craved food	66.66 %	33.33 %
11.	Variety of food craving at a time	56.66 %	43.33 %
12.	Emotions often make to eat food	66.66 %	33.33 %
13.	Think about foods when engaged in other activities	40.00 %	60.00 %
14.	Feel depressed when there is devoid of craved food	83.33 %	16.66 %
15.	Get irritated when meal is missed	86.66%	13.33%
16.	Feel light headed when the meals are delayed	43.33 %	56.66 %
17.	Stomach rumbling during cravings	63.33 %	36.66 %
18.	Feel hard to resist the temptation to appetizing foods	73.33 %	26.66 %
19.	Continue to eat a healthy diet when desire to eat craved food	40.00 %	60.00 %
20.	Distracted by thoughts of eating foods	53.33 %	46.66%
21.	Won’t able to stop eating once start eating the craved foods	43.33 %	56.66 %
22.	Have food on mind all time	30.00 %	70.00 %
23.	More cravings on spices	56.66 %	43.33 %
24.	No willpower to resist food crave	43.33 %	56.66 %
25.	Thinking about eating until get the craved food	53.33 %	46.66%
26.	Take more junk foods	43.33 %	56.66 %
27.	Crave for unusual substances	23.33 %	76.66 %
28.	Experienced constipation or diarrhea before menstruation	36.66 %	63.33 %
29.	Inclined to eat while preparing foods	50.00 %	50.00 %
30.	Control is lost during food cravings	53.33 %	46.66 %

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VI. RESULT

The respondents included thirty females, aged 18 to 25. Table 1.1 makes it clear that 100 % of females experience food cravings before menstruation. There will be mood swings after getting craved food 80 %, whereas 20 % do not. Spending more time thinking about food 53.33 % and 46.66% did not exhibit this symptom. 80% of women feel appetite is controlled by taking craved food; 20% do not. Experiencing cravings by seeing or hearing the particular foods. Of those, 83.33% and 16.66% did not feel. 86.66% cravings appeared by thinking of food, while 13.33% did not. Women feel more cravings for sweets 73.33%, while 26.66% of women do not. Women feel more cravings for salty foods 16.66%, while 83.33% of women do not. People consume nuts and seeds regularly 30 % while 70 % do not. 66.66% People made efforts to eat craved food while 33.33% do not.56.66% women have cravings for variety foods at a time while 43.33 % do not have this symptom. 66.66% Women emotion often makes them want to eat food while 33.33% did not. 40 % of women feel thinking about foods when engaged in other activities while 60% do not have this symptom. 16.66% women do not feel depressed when there is devoid of food while 83.33% women feel depressed. Women get irritated when the meal is missed is 86.66% and 13.33% women not getting irritated when the meal is missed.43.33% women feel light-headed when the meals are delayed while 56.66% did not feel. Women may experience stomach rumbling during craving is 63.33 % and 36.66 % not having the symptom.26.66% women not feel hard to resist the temptation to eat appetizing foods but 73.33% women feel hard to resist the temptation.40 % Continue to eat a healthy diet when desire to eat craved food while 60 % do not. 46.66 % are not distracted by thoughts of eating foods, while 53.33% of women are distracted. 56.66% able to stop eating once and start eating the craved foods while 43.33% did not. Women may feel food on mind all time 30% but 70% not feel. Women getting more craving for spicy foods 56.66% while other 43.33% did not. 43.33% No willpower to resist food craving while 56.66% did. Women may think about eating until they get the craved food is 53.33% while 46.66 % do not. 43.33% of women take more junk foods while 56.66 % did not. 76.66% women do not crave unusual substances but 23.33% women crave unusual substances. 36.66% Experienced constipation or diarrhea before menstruation while 63.33% does not experience. Half of women feel inclined to eat while preparing foods. 53.33 % women experience control is lost during food cravings while 46.66% do not experience.

VII. DISCUSSION

Higher percentage of females, 100% experience Excess cravings of food before menstruation. 80 % females feel their Mood swings reduce after getting craved food and appetite control by taking the craved food. 86.66% of females experiences cravings by thinking of food and Get irritated when meal is missed. 83.33% females Feel depressed when there is devoid of craved food and craved by seeing or hearing the particular foods. 53.33 % females Spend more times thinking about foods, Thinking about eating until get the craved food, Control is lost during food cravings and Distracted by thoughts of eating foods. 73.33% females experience more cravings for sweets and feel hard to resist the temptation to eat appetizing foods. 16.66% of females experience more cravings for salty foods and 56.66% females experience more cravings for spices. 56.66% may experience variety of food cravings at a time. 30% of females consume nuts and seeds regularly and have food on mind all time.66.66% females made effort to eat craved food, and their emotions often make them want to eat food. 40% women think about foods when engaged in other activities and Continue to eat a healthy diet when desire to eat craved food. 43.33% women's feel light-headed when the meals are delayed, Won't able to stop eating once start eating the craved foods, No willpower to resist food crave and Take more junk foods.63.33 % women's feel Stomach rumbling during cravings.23.33% Crave for unusual substances. 36.66% experienced constipation or diarrhea before menstruation. Half of the females are inclined to eat while preparing foods.53.33% of females control is lost during food cravings.

VIII. CONCLUSION

The study discovered that the respondents lacked healthy food consumption, a healthy lifestyle, and rest. The women's during reproductive period of life can manage the symptoms by taking nutritional food, adequate water intake ,exercises and proper rest. All the females (within the reproductive age) should receive sufficient information and awareness about this condition, which will improve the general well-being and health of young women's.

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