

ASSESSMENT OF FOOD CRAVINGS DURING MENSTRUAL CYCLE IN YOUNG COLLEGE STUDENTS

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ABSTRACT

The period is a term used to portray the grouping of occasions that happen inside your body as it gets ready for the chance of pregnancy every month. A monthly cycle is considered to start on the primary day of a period. The typical cycle is 28 days in length; be that as it may, a cycle can go long from 21 days to around 35 days. A food hankering is a deep craving for a particular food. This want can appear to be wild, and an individual might feel like they can't fulfil their craving until they get that specific food. Individuals could encounter food desires apparently all of a sudden, or they might be connected with seeing, smelling, or catching wind of a particular food. For example, seeing a notice for chocolate could set off a hankering for it. The mind locales liable for memory, joy, and prize assume a part in food desires. An awkwardness of chemicals, for example, leptin and serotonin, could likewise prompt food desires.

In conclusion, the consciousness of food desires that happens during period in young women and the basic causes is unknown by the vast majority of the people in the developing population. The review means to assess the food desires and during monthly cycle among 108 college going students of the age gathering of 17 to 23 years. The pre-planned questionnaire was created to acquire exact data. The findings show that during monthly cycle, 84.3% experienced food desires generally, with a more towards spicy (75%) and sweet (24%) foods. The majority 82.4% of the studied population had regular periods of 12 month in a year, while only 17.6% of them had irregular periods.

INTRODUCTION

Menstruation is the shedding of the lining of the uterus (endometrium) accompanied by bleeding. It occurs in approximately monthly cycles throughout a woman's reproductive life, except during pregnancy. Menstruation starts during puberty (at menarche) and stops permanently at menopause. (Menopause is defined as 1 year after the last menstrual cycle.) By definition, the menstrual cycle begins with the first day of bleeding, which is counted as day 1. The cycle ends just before the next menstrual period.

Menstrual cycles normally range from about 24 to 38 days. Only 10 to 15% of women have cycles that are exactly 28 days. Also, in at least 20% of women, cycles are irregular. That is, they are longer or shorter than the normal range. Usually, the cycles vary the most and the intervals between periods are longest in the years immediately after menstruation starts (menarche) and before menopause. Normally, menstrual bleeding lasts 4 to 8 days. Blood loss during a cycle usually ranges from 1/5 to 2 ½ ounces. A sanitary pad or tampon, depending on the type, can hold up to an ounce of blood. Menstrual blood, unlike blood resulting from an injury, usually does not clot unless the bleeding is very heavy. The menstrual cycle is regulated by the complex interaction of hormones: luteinizing hormone, follicle-stimulating hormone, and the female sex hormones oestrogen and progesterone.

The menstrual cycle has three phases:

1. Follicular (before release of the egg)
2. Ovulatory (egg release)
3. Luteal (after egg release)

The menstrual cycle begins with menstrual bleeding (menstruation), which marks the first day of the follicular phase.

When the follicular phase begins, levels of estrogen and progesterone are low. As a result, the top layers of the thickened lining of the uterus (endometrium) break down and are shed, and menstrual bleeding occurs. About this time, the follicle-stimulating hormone level increases slightly, stimulating the development of several follicles in the ovaries.

(Follicles are sacs filled with fluid.) Each follicle contains an egg. Later in this phase, as the follicle-stimulating hormone level decreases, usually only one follicle continues to develop. This follicle produces estrogen. Estrogen levels increase steadily.

The ovulatory phase begins with a surge in luteinizing hormone and follicle-stimulating hormone levels. Luteinizing hormone stimulates egg release (ovulation), which usually occurs 16 to 32 hours after the surge begins. The estrogen level decreases during the surge, and the progesterone level starts to increase.

During the luteal phase, luteinizing hormone and follicle-stimulating hormone levels decrease. The ruptured follicle closes after releasing the egg and forms a corpus luteum, which produces progesterone. During most of this phase, the estrogen level is high. Progesterone and estrogen cause the lining of the uterus to thicken more, to prepare for possible fertilization.

If the egg is not fertilized, the corpus luteum degenerates and no longer produces progesterone, the estrogen level decreases, the top layers of the lining break down and are shed, and menstrual bleeding occurs (the start of a new menstrual cycle). If the egg is fertilized, the corpus luteum continues to function during early pregnancy. It helps maintain the pregnancy.

A food craving is an intense desire for a specific food. This desire can seem uncontrollable, and a person may feel as though they cannot satisfy their hunger until they get that particular food. Food cravings can lead a person to eat foods that have adverse health effects, and they can disrupt efforts to follow a healthful diet. This article looks at the causes of food cravings and explains what simple steps people can take to handle them. People might experience food cravings seemingly out of nowhere, or they may be related to seeing, smelling, or hearing about a specific food. For instance, seeing an advertisement for chocolate might trigger a craving for it. The brain regions responsible for memory, pleasure, and reward play a role in food cravings. An imbalance of hormones, such as leptin and serotonin, could also lead to food cravings.

Cravings also involve the appetite centers of the brain, even though they tend to be separate from hunger. Various factors can affect a person's food cravings. In people who menstruate, hormonal fluctuations across the menstrual cycle can create food cravings. People can experience especially strong cravings during pregnancy due to hormonal changes. A person may also experience pica, which is a craving for non-food items, such as chalk, dirt, coins, or ice chips. Emotions can also contribute to food cravings, such as in cases of comfort eating.

It is also possible that some food cravings may be related to specific foods because the body needs particular nutrients.

There are two types of food cravings: selective and nonselective.

Selective cravings are cravings for specific foods, such as a person's favorite chocolate bar, a particular burger from their favourite restaurant, or a bag of potato chips of a certain flavour.

Nonselective hunger is the desire to eat anything. It may be the result of real hunger and hunger pangs, but it can also be a sign of thirst. Drinking water may help with intense nonselective cravings.

Food cravings can be a particularly frustrating symptom of menstrual periods. Many women commonly crave sweet treats or stodgy carbohydrates. However, what many women don't understand is that giving into such cravings can actually make some of

your other symptoms worse! It can be a vicious cycle – gorge on treats packed with refined sugar and you risk throwing your blood sugar levels off even further, and salty, processed foods can make your bloated tum a whole lot worse.

The causes of cravings around the time of your period aren't completely understood but there are a number of theories that exist:

Hormones– These are most definitely the main cause behind many symptoms of periods and cravings are no exception. Oestrogen dominance is thought to have a part to play in food cravings, so if you typically suffer from very heavy, painful periods, alongside your food cravings, this could be why. Fluctuating sex hormones can also temporarily affect your sensitivity to insulin, and this can have an impact on your blood sugar regulation which can result in cravings. Falling sex hormone levels can also impact other hormones: serotonin levels are thought to fall in the lead up to your period and cortisol levels can creep up. Serotonin is important for mood – mood swings are another common pre-menstrual symptom and comfort food can suddenly seem much more appealing if you are feeling a bit down (carbohydrates cause a short-term boost in serotonin so this could suggest why you often opt for sweet and stodgy options). Cortisol is a stress hormone and higher levels could make you more inclined to make poor food choices.

Deficiencies in minerals – Falling levels of oestrogen can also affect the uptake and utilisation of magnesium, therefore, around the time of your period the effects of magnesium can become blunted and it is possible that you crave chocolate, for example, (another particularly common craving) in a bid to up your magnesium levels – cocoa beans are an extremely rich source of magnesium. Low levels of chromium can also be problematic as this important mineral helps with blood glucose regulation – unstable blood sugar can mean cravings are more likely.

The need for energy – In some cases cravings can actually be a sign your body is crying out for help – it needs energy! Menstruation can be quite a taxing time for your body, hormones are running haywire and you are expending energy as your body prepares you for menstruation. Sugary, fat-laden foods are a rich source of calories and your body often needs some energy fast! However, there are more substantial, healthier alternatives that will provide your body with the energy it needs whilst keeping pesky cravings at bay.

MENSTRUAL CYCLE PHASES

The menstrual cycle is a term used to describe the sequence of events that occur within your body as it prepares for the possibility of pregnancy each month. A menstrual cycle is considered to begin on the first day of a period. The average cycle is 28 days long; however, a cycle can range in length from 21 days to about 35 days. The steps in the menstrual cycle are triggered by the rise and fall of chemicals in your body called hormones. Your pituitary gland (in your brain) and your ovaries (in your reproductive tract) make and release certain hormones at certain times during your menstrual cycle that cause the organs of your reproductive tract to respond in certain ways. The specific events that occur during your menstrual cycle can be described as follows:

The menses phase: This phase, which typically lasts from day one to day five, is the time when the lining of your uterus is actually shed out through your vagina if pregnancy has not occurred. Most people bleed for three to five days, but a period lasting only two days to as many as seven days is still considered normal.

The follicular phase: This phase typically takes place from days six to 14. During this time, the level of the hormone estrogen rises, which causes the lining of your uterus (called the endometrium) to grow and thicken. In addition, another hormone — follicle-stimulating hormone — causes follicles in your ovaries to grow. During days 10 to 14, one of the developing follicles will form a fully mature egg (ovum).

Ovulation: This phase occurs roughly at about day 14 in a 28-day menstrual cycle. A sudden increase in another hormone — luteinizing hormone — causes your ovary to release its egg. This event is called ovulation.

The luteal phase: This phase lasts from about day 15 to day 28. After the egg is released from your ovary, it begins to travel through your fallopian tubes to your uterus. The level of the hormone progesterone rises to help prepare your uterine lining for pregnancy. If the egg becomes fertilized by a sperm and attaches itself to your uterine wall, you become pregnant. If pregnancy does not occur, estrogen and progesterone levels drop and the thickened lining of your uterus is shed during the menstrual period.

HORMONE IMBALANCE

Knowing how a normal menstrual cycle works helps to understand the symptoms of premenstrual syndrome (PMS), perimenopause and menopause. Symptoms are often the result of too much or too little hormone(s). During perimenopause hormone levels fluctuate as a result of fewer ovulations, so less progesterone is produced in the second half of the menstrual cycle. Periods can be erratic, skipped or have heavy bleeding

/clots. Symptoms result from the change in ratio of estrogen to progesterone - so the imbalance creates the symptoms.

During menopause, estrogen is no longer produced by the ovaries and is made in smaller amounts by the adrenal glands and in fat tissue. Estrogen is still produced in the body, but in lower amounts than younger cycling women. The most significant hormone change of menopause is the lack of progesterone, so a time of estrogen dominance and low progesterone.

METHODOLOGY

The first phase of the study included the review of literature. The most updated and current information was collected. The second phase involved development of questionnaire which was used for data collection by a phenomenological approach. The data was collected in 2022 by purposive sampling technique from 100 college going girls.

1) STUDYDESIGN AND STUDYAREA

The study was conducted in Nehru arts sand science college, Autonomous located in coimbatore.

2) SELECTION OFPOPULATION AND SAMPLE SIZE

A purposive sampling technique was employed to enroll students (N=100) of NEHRU ARTS AND SCIENCE college of the age group of 18 – 23 years and those who experienced food cravings during menstrual cycle.

3) STUDY TOOL

Self-administered questionnaire schedule, consisting of a set of 45 questions with a combination of multiple choice and scaling questions were administered. These questionnaires were given to individuals from the selected population.

4) COMPONENTS OF QUESTIONNAIRE

The questionnaire consisted of a demographic profile which included the age, name, department, designation. Components of the questionnaire included the *Anthropometric measures, health and medical history, food and nutrition history, menstrual health, eating pattern and food cravings* the lifestyle and quality of life to get a keen understanding about the study participant

SELECTION OF STUDY

- NEHRU ARTS AND SCIENCE COLLEGE, COIMBATORE

SELECTION OF SAMPLES

- RANDOM SAMPLING METHOD

SELECTION OF AGE GROUP

- COLLEGE GIRLS OF AGE 17-23 YEARS
- N=108



FORMULATION OF QUESTIONNAIRE

GENERAL INFORMATION



HEALTH AND MEDICAL HISTORY



FOOD AND NUTRITION HISTORY



ABOUT MENSTRUAL HEALTH



EATING PATTERN QUESTIONNAIRE

Fig. 3.1 : Components of Questionnaire**PRE- ASSESSMENT PHASE**

- 1) **Anthropometric measures:** Include weight, and height to assess the nutritional status.
- 2) **Menstrual history:** Included the regular period pattern the duration of the menstrual flow and gap between 2 menstrual cycle, symptoms, mood swings.
- 3) **The eating pattern and food cravings:** Included the food habits and the regular meal patterns of the individuals, supplements of green leafy and iron supplements, skipping of meals nutritional foods and benefits about basic 5 food groups. It also examines the food cravings, the type of food cravings.
- 4) **Health / medical history:** Included, allergies, medicine intake, alcohol and smoking history.

The lifestyle and the quality of life determines the well-being of the individual which includes the data related to medical history, physical activity.

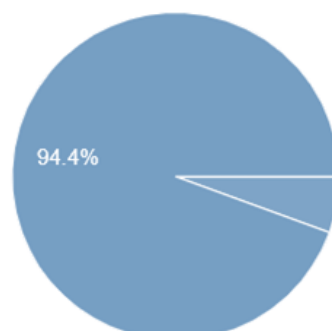
5) PROCEDURE

PHASE 1: Self-administered questionnaire was handed over to students and to prevent errors the respondents were given enough time to answer the questions.

PHASE 2: The administered questions were collected and the data obtained were recorded for statistical analysis and interpretation to establish relationships between chosen parameters for drawing conclusions from results.

RESULT AND DISCUSSION**STATISTICAL ANALYSIS**

Statistical analysis process that gain an in-depth understanding of a large population of data by analysing the sample's information, the responses from 108 college girls who are in the age between 18-23 are studying in Nehru arts and science college Coimbatore, are given below;

Health / Medical history**Fig. 4.1: Percentage of food allergies faced in the targeted population**

In fig.4.1 and fig.4.2 that refers the data which we collected from institution, states that out of 108 responses, 94.4% have no food allergies or medical diagnosed intolerance, remaining 5.6% have food allergies and 12% people who have consuming medicines.

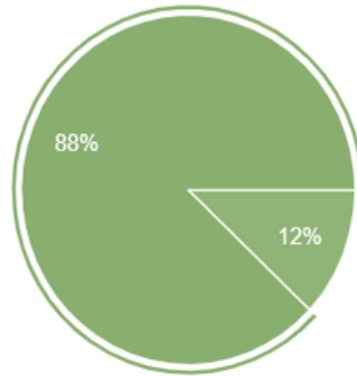


Fig .4.2: Medicinal intake proportion of the intolerant population

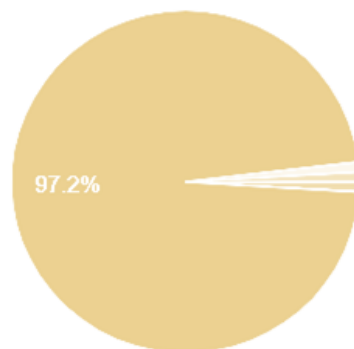


Fig 4.3 : Proportion on smoke users

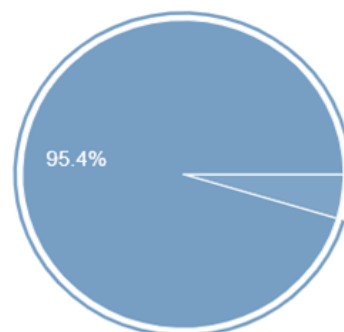
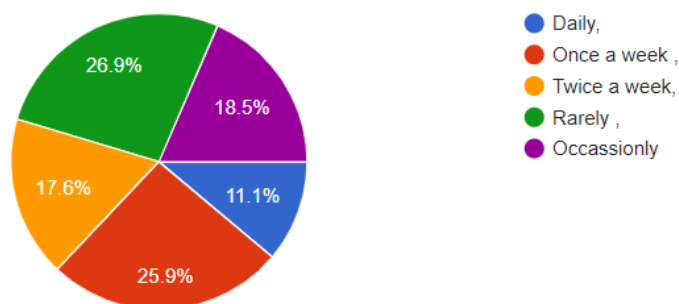


Fig 4.4 : Proportion on alcohol users

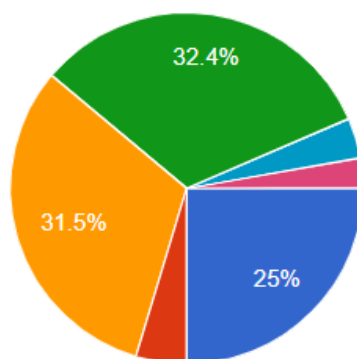
The data which is collected from the given analysis states that out of 108 responses, in fig.4.3 and fig.4.4 the alcohol and smoking consumption in students is very less only 5% are using alcohol and 3.8% are smokers. Remaining 95.4% and 97.2% are not using alcohol and smoke.

FOOD AND NUTRITION HISTORY**Fig 4.5 : Precantage of fast food intake**

By evaluated the respones ,11.1% of students consume fast foods daily ,25.9% say's they consume ones in a week, 17.6% twice a week , 26.9% are in rarely and remaning 18.5% consume occassionly.

By analysing the responses, 45.4% consume meals 3 times in a day , 13.9% consume 1 meal in a day , 10.2% consume 4 meals in a day , 9.3% consume 2 meals in a day

The data which we analysed from the responses, states that 82.4% have regular periods and 17.6% not are in regular periods.

**Fig 4.8 : Propotion of symptoms during menstrual periods**

By Analysing the 108 given responses , 32.4% have body pain during days before or around menstrual periods , 31.5% having abdominal pain, 25% having anger and remaning having anxiety , depression , breast tenderness.

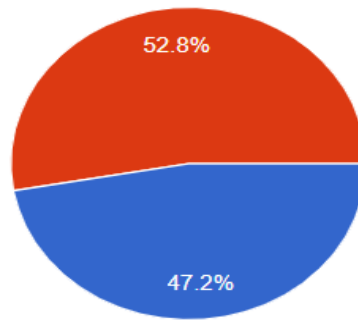


Fig 4.9: Percentage of menstrual problem in targeted population

By examining the 108 responses, 52.8% having no sick due to menstrual problems and 47.2% have .

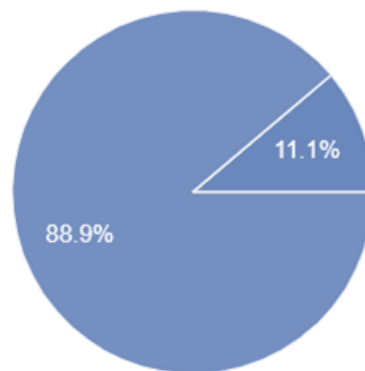


Fig 4.10: Relationship between mood swing and periods

By inspecting the 108 responses , 88.9% having mood swings during periods and 11.1% not having .

By inspecting the survey data , 42.6 % consume oily/ junk foods in case of rarely,31.5 % consume oftenly, 24.1 % consumes occasionally.

The data which we analysed from the 108 responses , 75% preffer spices and 25% preffer sweets.

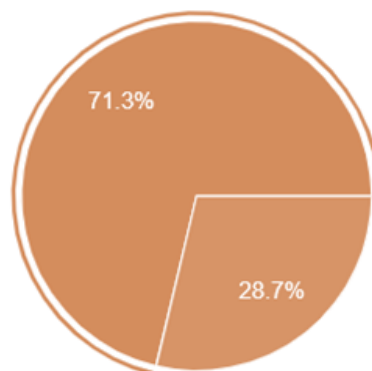


Fig 4.13: Status on homley foods vs junk foods

By examining the 108 Responses, 71.3% prefer homly food than junk food and 28.7% prefer junk food .

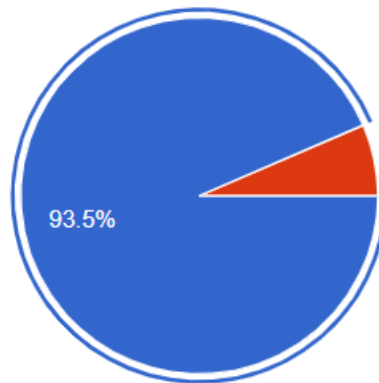


Fig 4.14 : consumption of fruits / nuts / chocolates

By analysing responses, 93.5% consume fruits , nuts , chocolates and 6.5% doesn't preffer this.

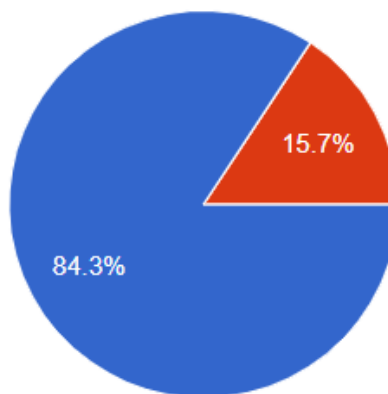


Fig 4.15 : Demographic status on food craveings in targeted population

In given resoneses , 84.3% having craveings and 15.7% they doesn't felt any kind of food craveings

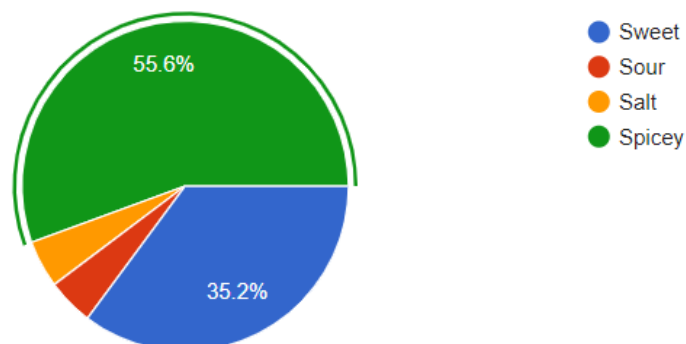


Fig 4.16 : Spicy, Salt , Sour and Sweet intake propotion of the intolarate population

By evaluating the 108 responses, it shows that 55.6% prefer spicy than sweet, salt and sour, 35.2% prefer sweet, remaining prefer salt and sour.

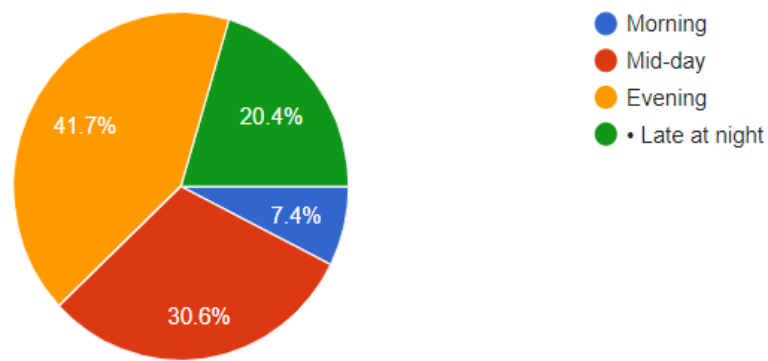


Fig 4.17 : Proportion of time that most experience food cravings

By examining the responses, 41.7% experience food cravings in evening, 30.6% that experience in mid day, 20.4% in late night and 7.4% only in morning.

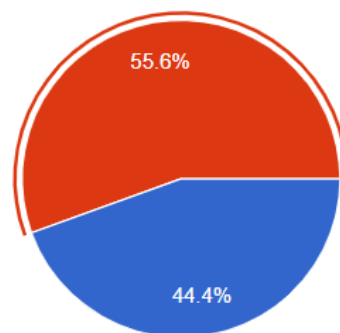


Fig 4.18 : Probability of variation in body temperature

By evaluating the given responses, 55.6% have variation in body temperature and 44.4% they don't feel any kind of body temperature.

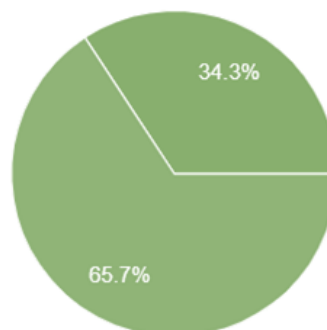


Fig 4.19 : Percentage of drinking water tendency in Targeted population

By evaluating the 108 responses, 65.7% have a tendency to drink water during periods, 34.3% have no tendency.

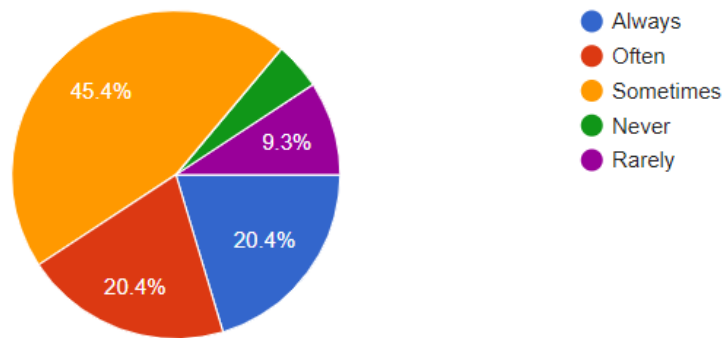


Fig 4.20 : Relationship between green leafy and iron suppliments

In given 108 responses , 45.4% of respondants states that they consume green leafy vegetables and iron suppliments in sometimes. Then 20.4% says that they are oftenly consume, 20.4% says they always consume, 9.3% are rarely used to consume and remaing they never consume

While analysing the 108 responses, 69.4% preffer homley food than junk food and chocolates then 16.7% preffer junk foods, and 13.9% preffer chocolates.

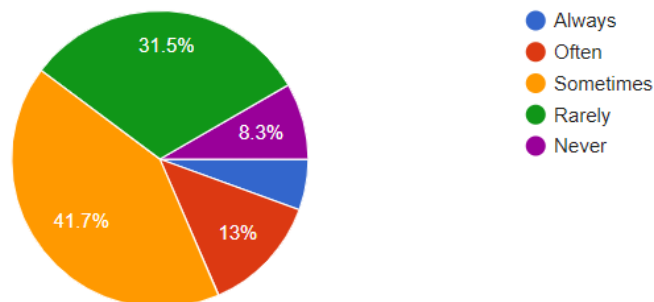


Fig 4.22 : Propotion of skipping meals in tagergrted population.

The data which we collected from the responses which clearly shows that, 41.7% are skipping in sometimes, 31.5% are rarely skipping their meals , 13% oftenly doing, 8.3% says that they never skip the meal remaing says that ,they always skips the meals.

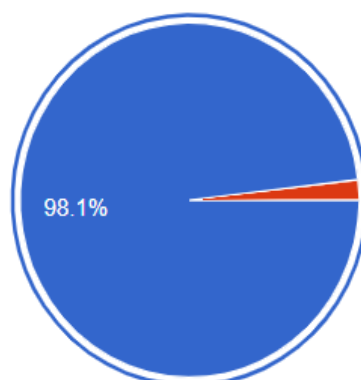


Fig 4.23: Status in benifits of nutrional food in menstrual health

While taking total responses , 98.1% says that good food / nutritional have rol in menstrual health and remaing 2% says no benfits.

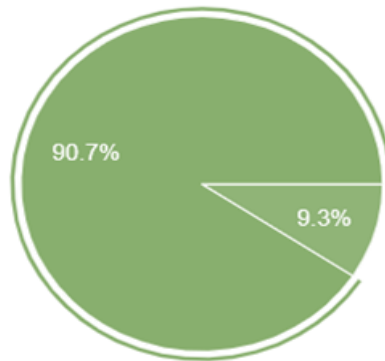


Fig 4.24: proportion of painkiller users in current study

While analysing the 108 total responses, 90.7% says they doesn't take any pain killers and 9.3% are taking painkillers (32 responses are said yes)

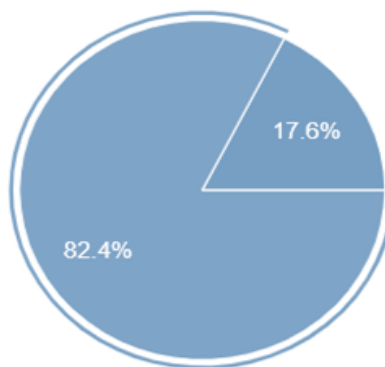


Fig 4.26 : proportion of painkiller users in current study

In fig.4.26 states that , 82.4% are aware about the consumption thses of kind painkillers and 17.6% says that they are not aware .

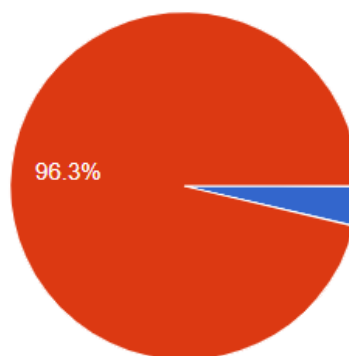


Fig. 4.27 : Propotion of PCOD/ PCOS in targeted population.

In fig 4.27 : 96.3% says they are not suffering from PCOD/ PCOS, and remaining 4% says that they have PCOD/PCOS.

Fig. 4.28 : Proportion of PCOD/ PCOS in targeted population

In fig.4.28 those who are said they have PCOD /PCOS , 3.2% are suffering PCOD/PCOS from the past 1 year , another 3.2% have from 3 years , then 3.2% have from 4 months , again 3.2% says that from 9 years they have .

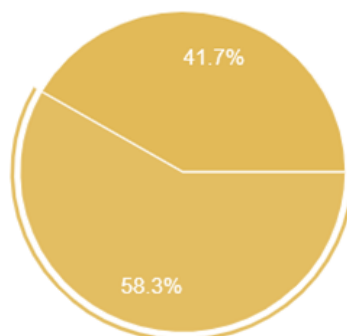


Fig.4.29 Status of 5 Basic food groups in targeted population .

By analysing the 108 responses, clearly shows that 58.3% are aware about 5 basic food groups

And remaining 41.7% are not aware about it.

DISCUSSION

The age of study subjects ranged from 17 to 23 years. Out of total, 51% of the study subjects belonged to the age group of 20 to 21 years, Whereas 8 % belonged to 22 to 23 years of age and 46% belonged to 17-19 Year of age. The majority 82.4% of the study population had regular periods of 12 Months in a year, while only 17.6% of them had irregular periods. The Usual intervals between the periods was seen, between 28 to 30 days in Maximum study population, while only in 7% of the population the interval between periods were more than 32-35 days. The duration of menstrual flow in maximum (53%) of respondents were observed to be for 4 to 5 days and only 18% of them had menstrual flow for more than 5-6 days. Based on the data collected ,Almost 31.5% followed a regular meal pattern and followed good eating habits. A regular meal pattern was not followed by 13% and 41.7% followed a meal pattern sometimes. It was noted that maximum 55.5% consumed 3-4 meals per day, while only 23.2% of them consumed 1-2 meals per day. Data presented in the (fig.4.17) depicts the food cravings experienced by the study population during the menstrual cycle. Among the total, 84.3% of them always experienced food cravings and 15.7% of them are not

experiencing food cravings during menstrual cycle. Majority (75%) of them craved for spicy food and 24% of them for sweet food. Almost 41.7% experience food cravings in evening, 30.6% that experience in mid day, 20.4% in late night and 7.4% only in morning. While analysing the responses, 69.4% prefer homely food than junk food and chocolates, then 16.7% prefer junk foods, and 13.9% prefer chocolates. Majority 88.9% have mood swings during menstruation and remaining 11.1% they don't feel mood swings.

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