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"A SURVEY ON PCOD AMONG ALL AGE GROUPS IN RURAL AREA AND PROVIDE NUTRITION EDUCATION AMONG THEM"

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Abstract: Polycystic ovarian disease (PCOD) is a reproductive disorder that encompasses many associated with health condition and metabolic process. PCOD is depicted by hyperandrogenism, polycystic ovaries and anovulation. It is increase the risk of insulin resistance, type 2 diabetes, cardiovascular disease and obesity. It seems to be a genetic syndrome caused by lifestyle modification and genetic factor. This survey is conducted rural area in Dharmapuri district of tamilnadu. The questionnaire was sent through online for different age group of females. This questionnaire contain PCOD symptoms and general information. The samples chosen from Q1 is based on those who are in mild PCOD symptoms. They are given with Q2 as printed material and chosen based on severe symptoms. Mean and standard deviation was used for statistical analyses of the data. 16 samples are have PCOD symptoms. Finally the nutrition education was given to the selected sample. This education is to create awareness among the females in rural areas.

Index Terms - **polycystic ovarian disease, lifestyle modification, polycystic ovary, health condition, rural areas.**

INTRODUCTION

PCOD is a common, complex reproductive endocrinopathy characterized by menstrual irregularities, hyperandrogenism, polycystic ovaries, metabolic and psychological disorders and affects up to 18% of reproductive-aged women (Shabnam bano 2022). Patients suffering from polycystic ovarian disease (PCOD) or also known as functional ovarian hyperandrogenism, ovarian hyperthecosis and sclerocystic ovary syndrome have multiple small cysts in their ovaries. These cysts occur when the regular changes of a normal menstrual cycle are interrupted. The ovary is inflated; and produces a large amounts of androgen and estrogenic hormones. This excess, along with the absence of ovulation, may cause sterility in women. The condition was first described in 1935 by American gynecologists Irving F. Stein, Sr. and Michael L. Leventhal, from whom it's original name: Stein–Leventhal syndrome is taken (Marrian G).

It may be perceived as a cosmetic issue because of hirsutism and acne, or as a gynecological concern that causes irregular menses and reduced fertility. The clinician should inquire about, and examine for the presence "male-pattern" hair, ie, hair located on the upper lip, chin, chest, lower abdomen, and inner aspects of the thighs. Oily skin and acne are subtle signs of androgenism but hirsutism is the most common manifestation of the androgen component of polycystic ovarian syndrome (Harshinee chandrasekar 2016). The polycystic ovarian syndrome is associated with an increased risk for metabolic conditions such as insulin independent diabetes dyslipidemia, visceral obesity, endothelial dysfunction and chronic low-grade inflammation (Rojas J 2014)

Discovered that polycystic ovaries in childhood may be considered a sign of genetic predisposition to PCOD and that environmental influences may express the adult clinical and hormonal presentation of the syndrome (Vink et al. 2006) also showed that the contribution of familial component in PCOD is due to genetic factors. On the other hand, many studies (kiddy D.S, 1992), (Norman R.J 2002), have suggested that lifestyle modification and dietary treatment of women with PCOD was the best initial management for obese women seeking to improve their reproductive function. Study of lifestyle modifications by use of alteration of diet intake and exercise therapy to treat obese women with PCOD were successfully employed by (Palomba et al.), (Thomson et al), (Hoeger et al).

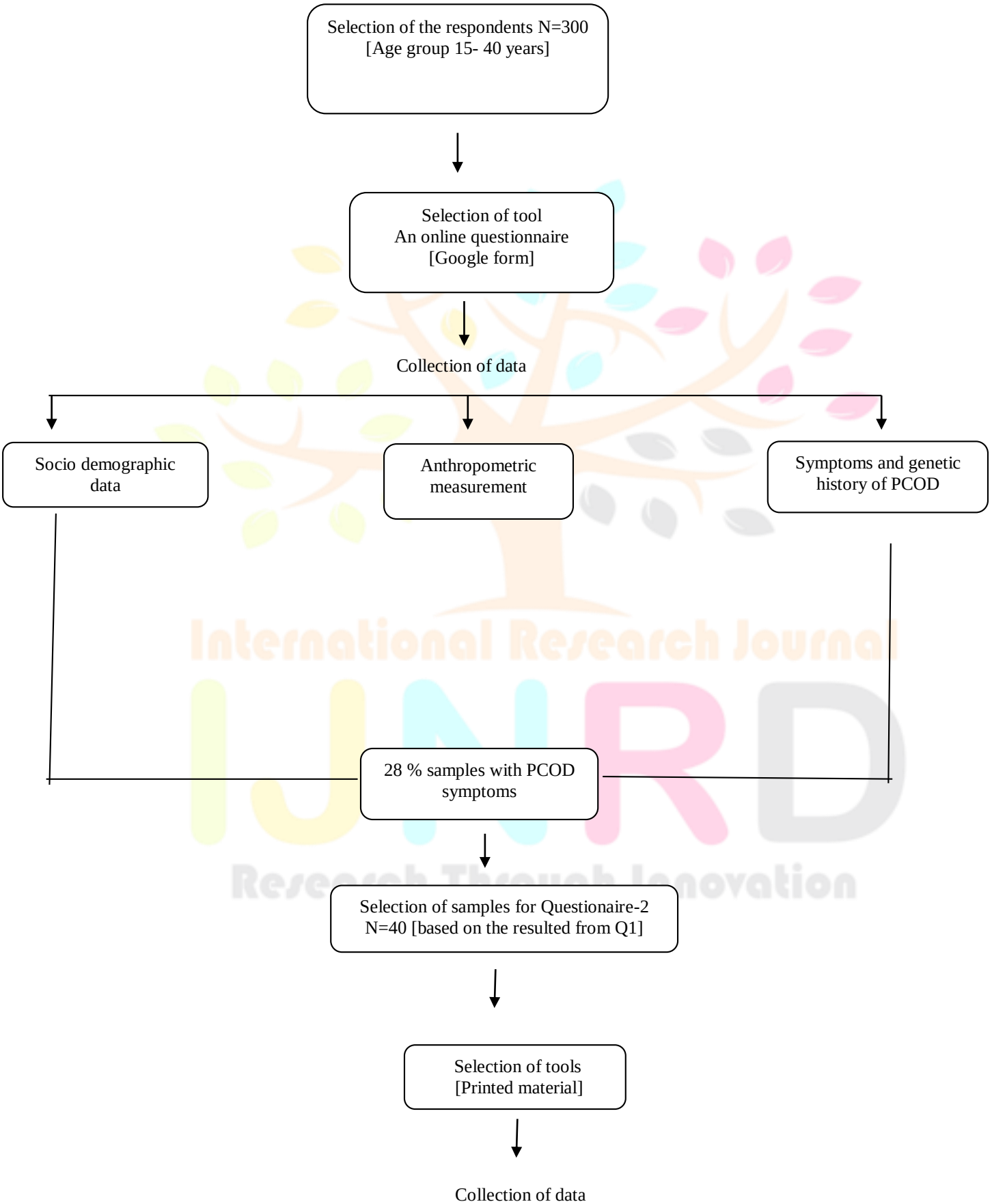
NEED OF THE STUDY

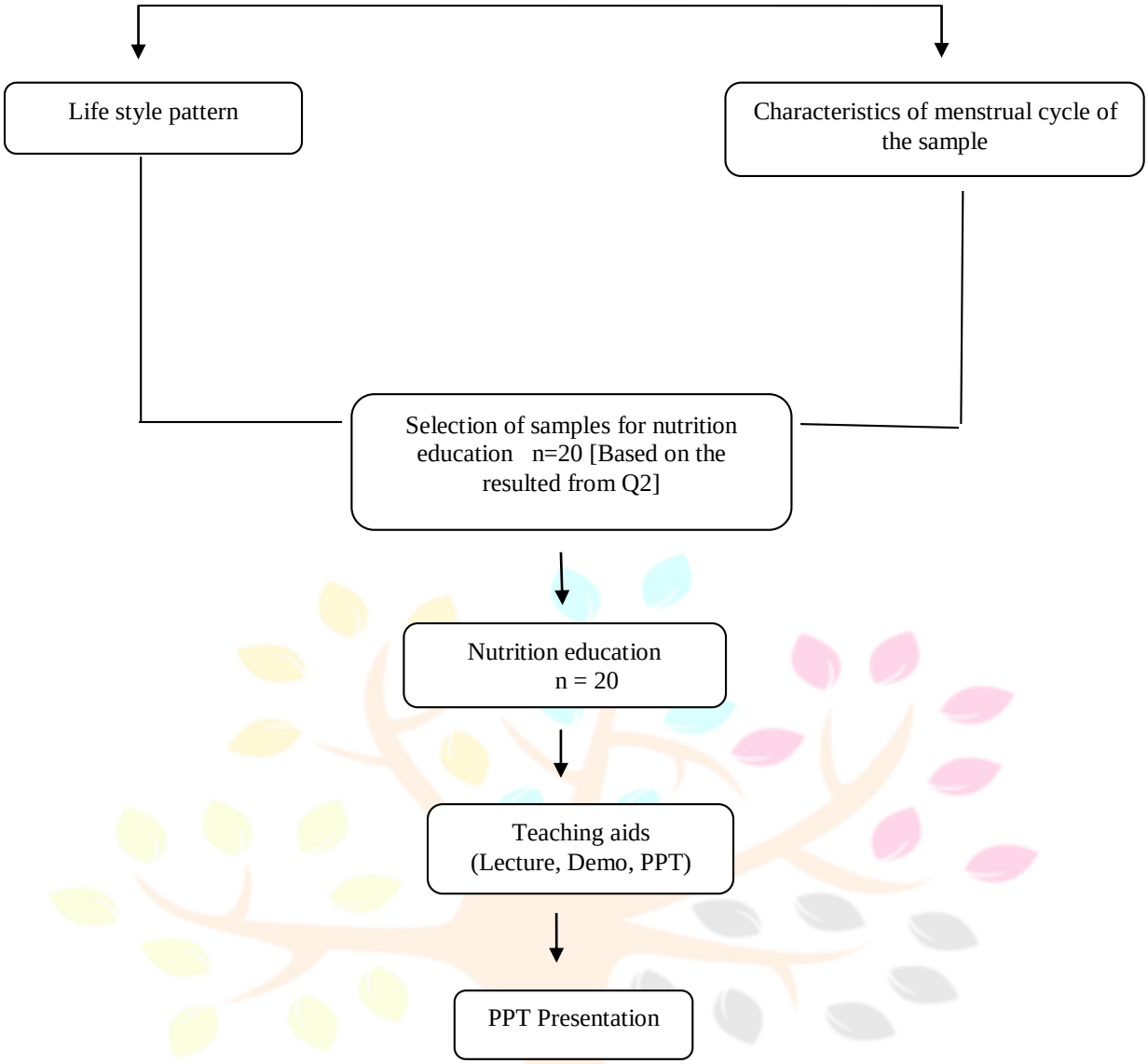
- To study about the PCOD among all age group.
- To assess the PCOD problem in the educational institution.
- To assess the clinical features of the sample.
- To educate the lifestyle modification for the sample

- To provide dietary habits for the sample.
- To provide the nutritional education for the sample those who have similar symptoms
- Nutrition education is the most important tool for improving knowledge regarding PCOD and PCOS, the discussion is accordance with the finding based on the objectives of the research.

RESEARCH METHODOLOGY

Research design:





Sample size

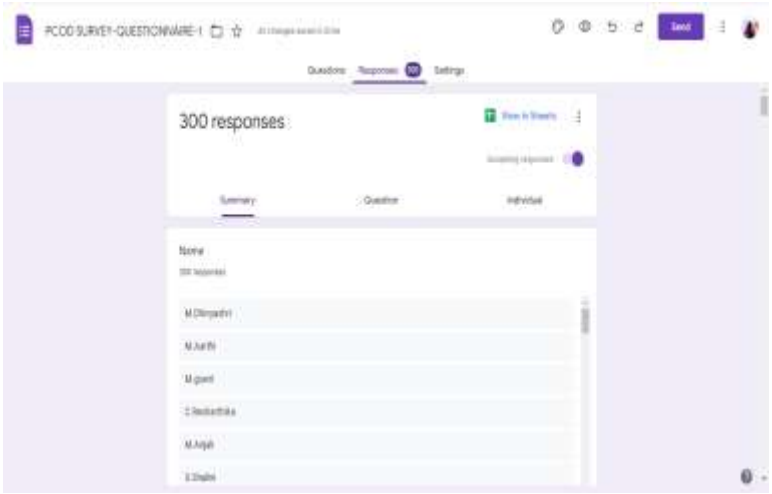
Sample size refers to the number of participants or observation included in a study. This number is usually represented by n. From this study the taken sample size is 300 samples were women's of age between 15 to 40 years.

Selection of area and samples

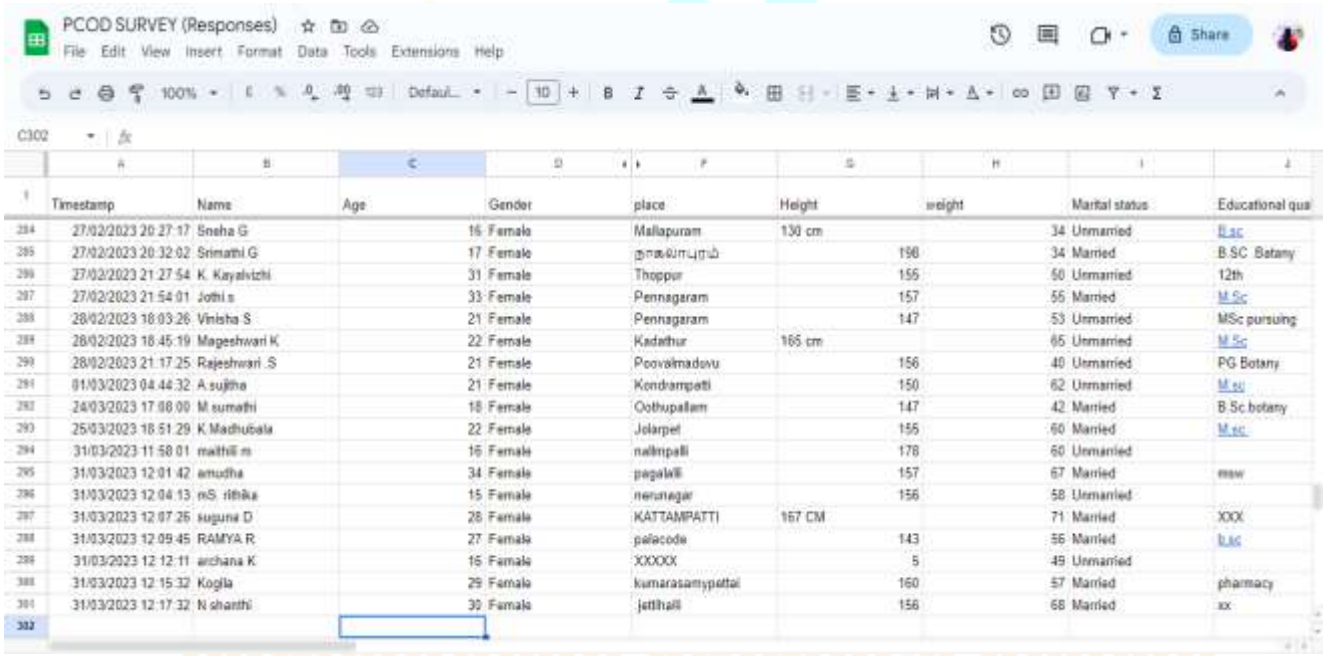
The study of clinical survey of the selected samples were women. The subjects for the present study were taken from rural areas and from colleges in Dharmapuri district of Tamilnadu. The Qualitative research approach was used for the present study. The participants for the study were from age group of 15 to 40 years from the rural area.

Procedure of data collection from the samples

The topic which was chosen for research is "A survey on PCOD among females of all age group (15 to 40) in rural area and provide nutrition education among them". I had directly met the samples and explained about the survey about PCOD and its prevalence. The questionnaire was distributed to the samples of (15 – 40) age group in the Google form.



Response of questionnaire 1



PCOD SURVEY (Responses)

Timestamp	Name	Age	Gender	place	Height	weight	Marital status	Educational qua
27/02/2023 20:27:17	Sneha G	16	Female	Mallapuram	130 cm	34	Unmarried	B.sc
27/02/2023 20:32:02	Srimathi G	17	Female	[illegible]	198	34	Married	B.SC Botany
27/02/2023 21:27:54	K. Kayalvizhi	31	Female	Thoppur	155	60	Unmarried	12th
27/02/2023 21:54:01	Jothi s	33	Female	Pennagaram	157	55	Married	M.Sc
28/02/2023 18:03:26	Vinisha S	21	Female	Pennagaram	147	53	Unmarried	MSc pursuing
28/02/2023 18:45:19	Mageshwari K	22	Female	Kadathur	165 cm	65	Unmarried	M.Sc
28/02/2023 21:17:25	Rajeshwari .S	21	Female	Poovalmadovu	156	40	Unmarried	PG Botany
01/03/2023 04:44:32	A.sujitha	21	Female	Kondrampatti	150	62	Unmarried	M.sc
24/03/2023 17:08:00	M.sumathi	18	Female	Oothupallam	147	42	Married	B.Sc.botany
25/03/2023 18:51:29	K.Madhubala	22	Female	Jolarpet	155	60	Married	M.sc
31/03/2023 11:58:01	maithili m	16	Female	nallmpalli	178	60	Unmarried	
31/03/2023 12:01:42	amudha	34	Female	pagalkli	157	67	Married	msw
31/03/2023 12:04:13	mS. rithika	15	Female	nerunagar	156	58	Unmarried	
31/03/2023 12:07:26	suguna D	28	Female	KATTAMPATTI	167 CM	71	Married	XXX
31/03/2023 12:09:45	RAMYA R	27	Female	palacode	143	56	Married	B.sc
31/03/2023 12:12:11	archana K	16	Female	XXXXX	5	49	Unmarried	
31/03/2023 12:15:32	Kogila	29	Female	kumarasamypattai	160	57	Married	pharmacy
31/03/2023 12:17:32	N.shanthi	30	Female	jatthalli	156	68	Married	xx

Collection of data from questionnaire

Selection of samples for questionnaire 2

The samples were picked based on the results of questionnaire 1, which included their answers and symptoms. The samples were given the Google form with questions like menstrual cycle, weight, height, age etc. The results were recorded from the recorded results. It was filtered the specific samples who have basic symptoms.

Selection samples for provide nutrition education

The samples were selected from the results of questionnaire 2. It is based on their lifestyle modification and menstrual cycle.

Nutrition Education:

The nutrition education should be practical and should be easily adaptable to the socioeconomic status, food habits and available local food resources through the posters, presentation. Nutrition is crucial to the body. The nutrition education helps to manage. The education contain the foods to be included, foods to be avoided, principle of diet, diet plan and food that prevent PCOD.

This is to provide the education based on lifestyle and their diet. It is done to maintain and regulate their condition.

Implementation of nutrition education

This education creates awareness among the people.

Diet plan:

Criteria	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Early morning	Green tea	Fenugreek water	Lady's finger water	Lemon tea	Hot water with honey	Dry grapes soaked water	Green tea with honey
Breakfast	Ragi, Idly, Tomato Chutney, Dhal sambar.	Vegetables wheat upma, coconut chutney.	Appam, moong dhal, Egg white.	Bajra dosa, Horse gram chutney.	Beet root, Idly, black gram chutney, Dhal sambar.	Oats upma & Groundnut chutney.	Idly, mint chutney, sambar.
Mid-morning	Apple juice	Thulsi, Ginger pepper, Tea & Soaked almond-5.	Black gram porridge.	Pomegranate juice.	Guava with Papaya juice	Tender coconut water.	Butter milk.
Lunch	Brown rice cabbage poriyal, Sambar curd.	Chapatti, Beetroot poriyal, cauliflower curry.	Rice, Rasam steamed fish(salt +pepper)	Mixed veg pulau in brown rice, Boiled egg	Curd rice with potato curry.	Mixed vegtable rice with boiled egg	Chapatti with mutton curry
Mid-evening	Mixed seeds laddu	Channa sundal.	Pomegranate + papaya+ apple (mixed fruit salad).	Sprouted green gram Sundal + Orange.	Boiled corn.	Pea's sundal.	Ginger tea, Dates laddu
Dinner	Chapathi egg curry.	Ragi ball, pirandai chutney.	Gullet and tomato chutney.	Mixed veg chapatti roll.	Ragi ball mushroom gravy.	Chapathi, spinach curry.	Ragi adai with karisilangann i leaves chutney.

Treatment of PCOD:

The cure after PCOD is yet to be determined. However, with proper treatment and lifestyle modification it can be somewhat helpful for the cure.

Lifestyle modification

- Exercise are best for PCOD
- Diet therapy
- Get a good sleep
- Stress management
- Clean and holistic living
- Herbs and supplements
- Water intake

Exercise for PCOD

IV. RESULTS AND DISCUSSION

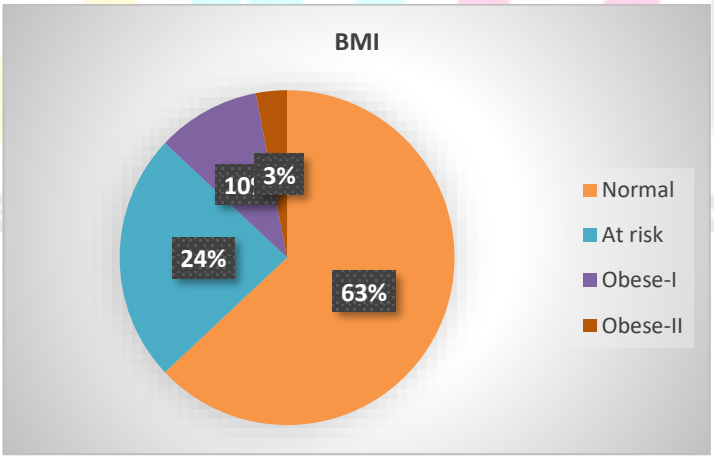
4.1 DATA ANALYSIS OF QUESTIONNAIRE 1

4.1.1 BODY MASS INDEX OF THE SELECTED SAMPLES

The body mass index of the samples is given in the table

BMI kg/m2	Number	Percentage
Normal 18-22.9	190	63%
At risk 23-24.9	72	24%
Obese-I 25-29.9	30	10%
Obese-II 30 and above	8	3%

From the table it was clear that 63% of the samples were found under normal, about 24% of the samples were categorized under at risk group and 10% of the samples were selected for obese one group and 3% of the samples were selected for the obese two group.

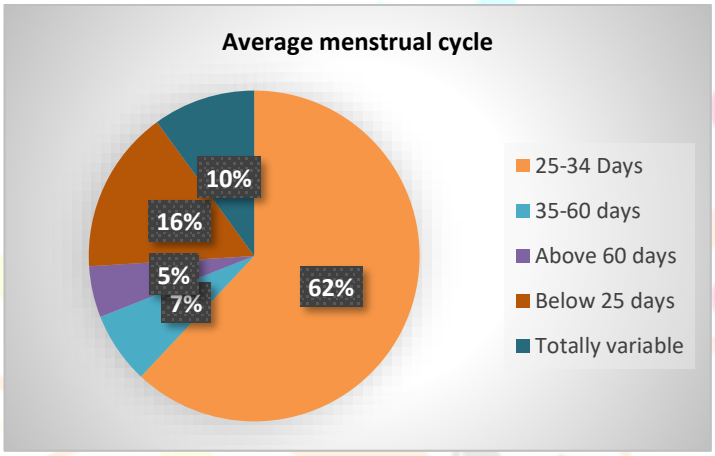


4.1.2 TO ASSESS THE DATA ON AVERAGE MENSTRUAL CYCLE OF THE COLECTED SAMPLE

S.NO	NUMBER	PERCENTAGE
25 TO 34 DAYS	186	62%
35 TO 60 DAYS	21	7%
ABOVE 60 DAYS	15	5%
BELOW 25 DAYS	48	16%
TOTALLY VARIABLE	30	10%
TOTAL	300	100%

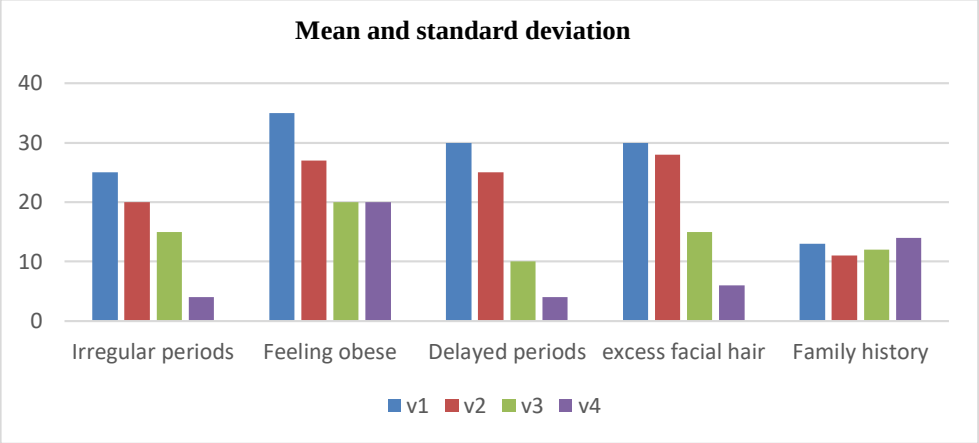
Average menstrual cycle

From the table of data shows that 62% of females menstrual cycle between 25 to 34 days , 7% of sample menstrual cycle between 35 to 60 days , 5% is above 60 days and nearly 16% samples menstrual cycle between below 25 days and 10 % females have totally variable menstrual cycle of the collected data.



Criteria	V1	V2	V3	V4
Irregular periods	25±21.2123	20±63.6396	15±19.798	4±32.5269
Feeling obese	35±12.7279	27±49.4974	20±16.9705	20±21.2132
Delayed periods	30±16.9705	25±52.3259	10±22.6274	4±32.5269
Excess facial hair	30±16.9705	28±46.6690	15±19.7989	6±31.1127
Family history	13±31.1127	11±83.4386	12±21.2132	14±25.4558

4.1.3 MEAN AND STANDARD DEVIATION OF SAMPLES SELECTED FROM QUESTIONNAIRE 1



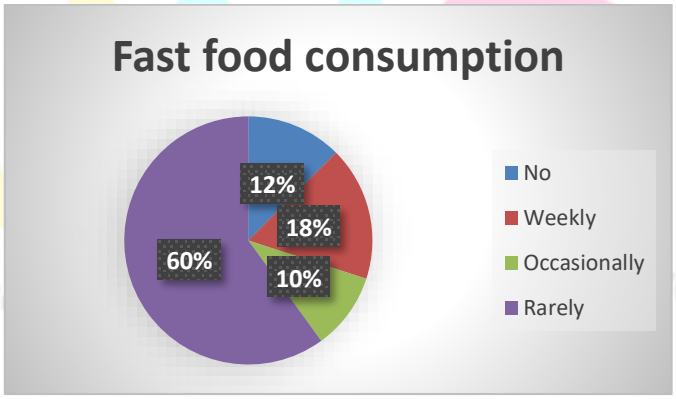
4.2 DATA ANALYSE OF QUESTIONNAIRE -2

The second questionnaire was distributed to 40 samples. The samples are picked from based on result from questionnaire one.

4.2.1 TO ASSESS THE FAST FOOD CONSUMING AMONG THE COLLECTED SAMPLE

CRITERIA	NUMBER
NO	10
WEEKLY	14
OCCASIONALLY	8
REGULARLY	8

From the table of the data shows that 35 percentage of the females are consuming fast food weekly basics and 25 percent of the females are do not consuming and 20 percent of samples occasionally consuming and 20 percent about rarely consuming fast food from the collected data.

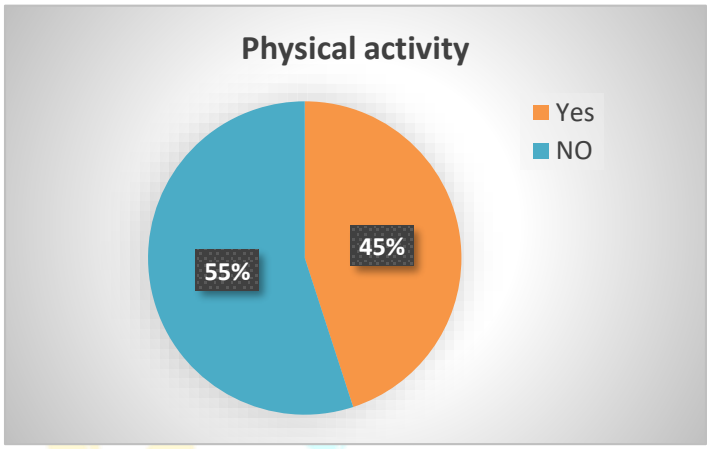


4.2.2 TO ANALYSE THE DATA ON PHYSICAL ACTIVITY AMONG THE COLLECTED SAMPLE

CRITERIA	NUMBER	PERCENTAGE
YES	18	45%
NO	22	55%

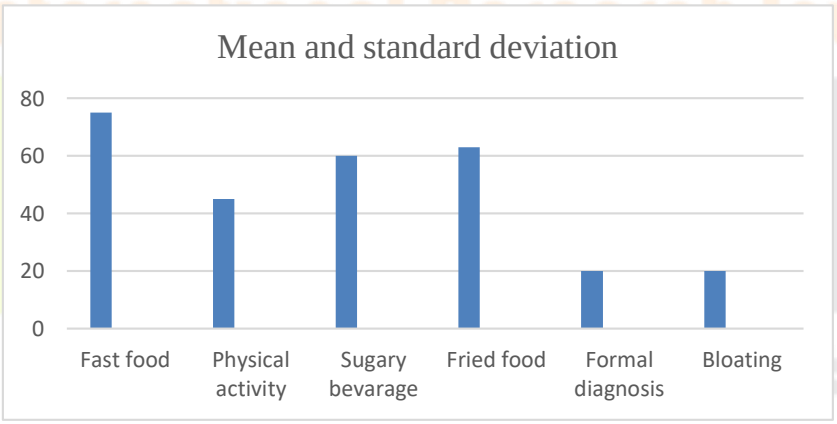
Physical activity

The data presented in the table shows that about 45 percent of the samples are doing physical activity and 55 percent of the females are do not involved in the physical activity from the collected data.



4.2.3 MEAN AND STANDARD DEVIATION OF SAMPLES SELECTED FROM QUESTIONNAIRE 2

CRITERIA	MEAN AND STANDARD DEVIATION
FAST FOOD CONSUMING	75 ±14.1421
PHYSICAL ACTIVITY	45 ± 2.8284
CONSUMPTION OF SUGARY BEVERAGE	60 ± 5.6568
FRIED FOODS	63 ± 8.4852
FORMAL DIAGNOSIS	20 ± 16.9705
BLOATING	20 ± 16.9705



CONCLUSION

In the present study the sample selected were of school and college student and women in the dharmapuri district. Of these it is inferred that 20 percent of females belongs to the age group of 15 to 17 years, 50 percent of the females belongs to the age group of 18 to 23 years, 13.3 percent of the samples belongs to 24 to 30 years, 16.67 percent of females belongs to the age group of 31 to 40 years. In this present study, it is found that 10 percent of the females were in the BMI of 23 to 24.9 those who are considered as obese-I and 3 percent of the females range about 30 and above in BMI who are in the obese-II condition. In the study, it was found that about 18 % of samples have irregular periods and 57 % of the samples are have various psychological symptoms such as depression, anxiety. In this present study, it is found that about 20.7 % of the females are having delayed periods and 63% of

samples belongs to severe hair loss and 23% of the samples belongs to facial hair in the collected data. From the survey it is noted that statistical analysis is evident that PCOD prevalence making a whopping 40 sample have PCOD symptoms out of 300 sample. The first line of treatment to pcod is diet therapy, exercise and lifestyle modification. So that the nutrition education was carried out to those who have symptoms and improper lifestyle modification. PCOD prevalence doesn't only rise in females following by urban lifestyle, this survey shows that PCOD also affect the females in rural area .This is due to unhealthier lifestyle modification , genetics, malnutrition and some of the health factors are causes these condition.

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